NEW YORK
CHICAGO
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RAVENNA, O.

MANHATTAN MESCO ELECTRICAL SUPPLY CO. TRADE MARK

Catalogue Twenty Two

SOMETHING ELECTRICAL FOR EVERYBODY

MANHATTAN Electrical Supply Co.

NEW YORK
17 Park Place
14 Murray St.

CHICAGO
188 Fifth Ave.

Factories:
Jersey City, N.J.-Ravenna, Ohio

SPECIAL NOTICE.

This Book Contains only a partial list of supplies manufactured and handled by us. Our General Catalogue (750 pages) will be mailed on receipt of fifty cents, and our certificate receipt for this amount can be used as part payment on any subsequent purchase of five dollars worth of supplies.

We Carry a Complete Stock of general Electrical Supplies in both New York and Chicago and in most cases, ship the same day as order is received.

We Answer Promptly and cheerfully all inquiries for special prices and discounts on quantity orders.

IN MOST INSTANCES THE PRICES IN THIS CATALOGUE ARE SUBJECT TO A REDUCTION TO PARTIES BUYING IN QUANTITIES.

Don't Accept Propositions Until You Get Our Prices.

Remittances may be made by Draft, Post Office or Express Money Order or Registered Letter.

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Shipping Directions should accompany eacn order. In absence of these we will use our best judgment in selecting routes.

When Ordering give List, Page and Catalogue Number.

Goods by Mail, when so ordered, must be at purchaser's risk of loss and damage.

Express C. O. D. Orders for $5.00 or more, will be accepted if one-third of the amount is remitted with order, or if Express charges are guaranteed by your local Express agent.

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Our Terms: To parties of approved credit 30 days net.

All Prices in This Catalogue are Subject to Discount,

SEE DISCOUNT SHEET.

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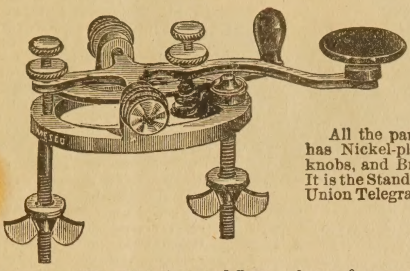
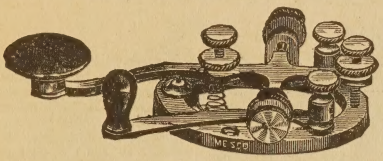
STEEL LEVER KEYS.



All the parts are finely finished. It has Nickel-plated lever, Gutta Percha knobs, and Brasswork highly polished. It is the Standard of Postal and Western Union Telegraph Companies.

List No. **103** Nickel-plated Lever, brass frame, with legs,..Price, $1.90
" **105** Nickel-plated Lever and frame, legs..... " 2.10

STEEL LEVER KEY TOP CONNECTIONS.

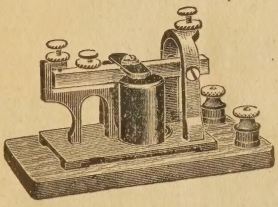


All Keys are fitted with our improved adjustment spring holder.

List No. **108** Nickel-plated Lever, brass frame, Legless.....Price, $2.10
" **109** Fully Nickel-plated..... " 2.30

IMPROVED GIANT SOUNDER.

Either Aluminum or brass lever furnished.

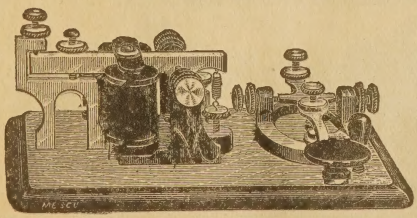


It is unequaled for quick action, loudness and clear tone. Its proportions are scientifically correct. One cell of ordinary Crowfoot Battery will operate this instrument, producing a sound louder and clearer than can be obtained from any other sounder with two cells of battery.

The clear and distinct sound of this instrument makes it very popular with expert telegraphers.

List No.		Price.
110	Giant Sounder, 5 ohms, Brass Lever, each	$2.80
111	" " 5 " Aluminum Lever, each	2.80
112	" " 20 " Brass " "	3.00
113	" " 20 " Aluminum " "	3.00

EUREKA TELEGRAPH INSTRUMENT.

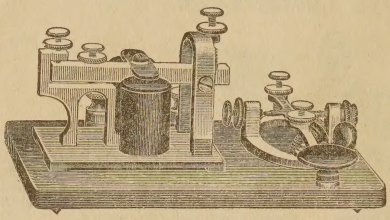


The Eureka is a first-class, full size telegraph set. All of the working parts are finely finished composition metal, such as used in all high-grade instruments. The base is mahogany and highly polished. The key is of the steel lever pattern.

A book of instructions for amateurs is furnished gratis with each instrument.

List No. **178** Wound to 5 Ohms.....Price, $2.30
" **179** " 20 " ..... " 2.50

IMPROVED GIANT COMBINATION SET.

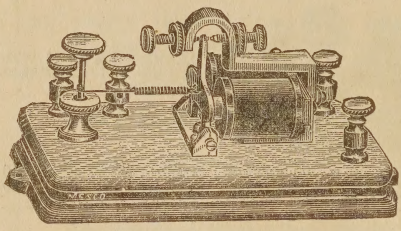


Our standard first-class Improved Giant Sounder, finely finished, with rubber-covered coils, mounted on polished mahogany base, with our regular Steel Lever Key, making the neatest and most perfect Set of Short Line Instruments ever produced. A book of instructions for amateurs is furnished with each instrument.

List No. 182	Wound	5 Ohms,	Aluminum	Lever	.....	Price, $4.70
" 183	"	20 "	"	"	.....	" 5.00
" 185	"	5 "	Brass	"	.....	" 4.70
" 186	"	20 "	"	"	.....	" 5.00

STANDARD PONY RELAY.

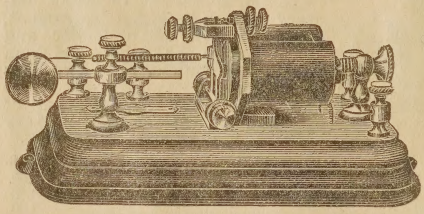
Mounted on Polished Mahogany Base, with Metallic Surbase.



Its use will enable work on lines up to 20 miles, with perfect ease, in cases where main line sounders fail to give satisfaction. Requires less battery to operate it than does any main line sounder of like resistance.

List No. 114	5 Ohms	for Burglar Alarm Work	.....	Price,	$3 00
" 115	20 "	" Lines up to 10 miles	.....	"	3.00
" 116	50 "	" " 10 to 30 "	.....	"	3.30
" 118	75 "	" " 30 to 50 "	.....	"	3.50

R. R. PATTERN STANDARD RELAY.

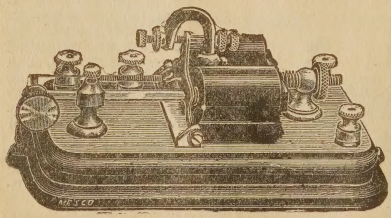


Metal parts highly finished, silk covered wire, polished rubber-covered coils, mahogany base, mounted on ornamented surbase, extension adjustment and one piece armature.

List No. 119	R. R. Pattern Relay, 150 Ohms	.....	Price,	$7 20
" 149	" " " 250 "	.....	"	7.50

Special Resistances to order.

COMMERCIAL STANDARD RELAY.



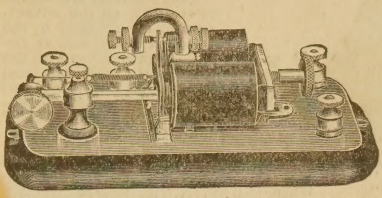
This instrument has all improvements.

Polished Rubber Covered Coils, Mahogany Base, Ornamental Surbase and Extension Adjustment.

Thousands of these relays are in use on W. U. and Postal Telegraph lines.

List No. 125	150 Ohms resistance	.....	Price,	$6.30
" 145	250 " "	.....	"	7.00

20th CENTURY RELAY.

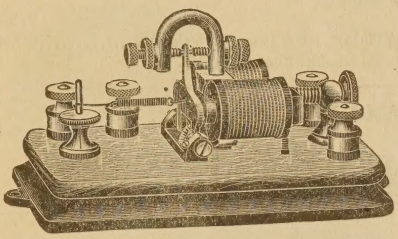


In the 20th Century Relay we have produced the most perfect telegraph instrument of its kind ever made. Every telegrapher realizes the advantage of quick adjustment of magnets when there is heavy "escape" on the line. With our 20th Century Relay the magnets can be moved back by simply pulling on the magnet adjusting screw, and if found necessary to keep them away from the armature, a few turns of the adjusting screw will hold them firmly in place.

Every part of the relay is most carefully constructed and assembled, and the best selected materials only are used.

List No.	122	20th Century Relay,	150	Ohms	.....	Price,	$7.50
"	123	" " "	200	"	.....	"	7.80
"	124	" " "	250	"	.....	"	8.00
"	148	" " "	300	"	.....	"	8.30

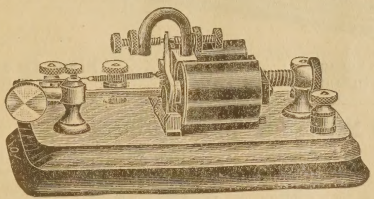
IMPROVED PONY RELAY.



This Relay is an improvement on the Standard Pony type, and combines the good points of the Pony, with those of the larger size instrument. It has adjustable magnets, one-piece armatures and levers. It is finely finished and mounted on polished mahogany base with enameled iron surbase.

List No.	162	Relay, 5 Ohms, for Burglar Alarm Work				Price,	$3.50
"	163	" 20 " " Lines up to 10 Miles				"	3.60
"	164	" 50 " " " 10 to 30	"	.....		"	3.70
"	165	" 75 " " " 30 to 50	"	.....		"	3.80

With Rubber Magnet Covers, **50c** extra.

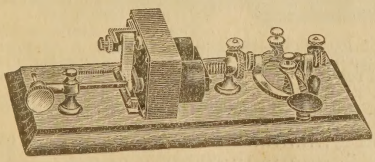


BARCLAY RELAY.

This relay is manufactured by us under the Barclay Patents, and is one of the finest working relays on the market.

List No	225	150 Ohms resistance				Price,	$8.00
"	226	200 " "				"	8.30
"	227	250 " "				"	8.50
"	228	300 " "				"	8.80

BARCLAY BOX RELAY.

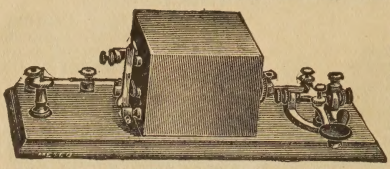


Well known among the Telegraph Fraternity, and is noted for its ease of adjustment and its loud, clear sound.

The workmanship and finish are the best.

List No.	230	150 Ohms resistance, with Key on Base				Price,	$11.00
"	231	250 " " " "				"	11.50
"	232	150 " " without Key on Base				"	9.50
"	233	250 " " " " "				"	10.00

BOX-SOUNDING RELAY.

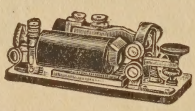


The Box Relay is designed to combine all the advantages to be obtained by the use of a relay, and at the same time dispense with the usual local sounder and local battery, but it is arranged so that local sounder and battery can be connected if desired.

List No.	127	150 Ohms resistance, with Key		Price,	$9.00
"	133	250 " " "		"	9.30
"	129	150 " " without Key		"	7.00
"	131	250 " " "		"	7.40

Special Resistances to order.

LITTLE GIANT POCKET RELAY.

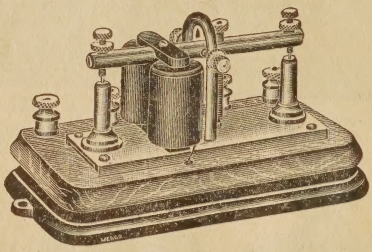


An improved Pocket Relay; all the parts are finely finished and nickel-plated; a perfect working instrument enclosed in leather case, the smallest of the kind on the market; magnets rubber-covered and wound any resistance required.

List No.		Price
160	Little Giant Pocket Relay, 150 Ohms, with Case	$23.00

Special Resistances to order.

DYNAMO POLE CHANGER.



List No.	235	Dynamo Pole Changer	Price.	$14.00
"	236	Plain Pole Changing Sounder	"	14.00

IMPROVED MAIN LINE SOUNDER.

Gives three times the volume of sound given by the very best box Relays, or any other form of Sounding Relays ever before produced.

Unequaled for Wrecking, Testing, Switchboard or Temporary Office use, and all places where it is desirable to dispense with local batteries.

They are made with full size Relay Magnets of 150 Ohms resistance, having a special *armature adjustment* and are fully suited for doing, in a greatly improved manner, the work of regular Main Line Box Relays. They are sensitive to weak currents, giving a clear working sound on circuits, where without them, a relay with local sounder and battery would be absolutely necessary.

List No.	135	150 Ohms, with Key	Price,	$9.00
"	138	250 " " "	"	9.50
"	136	150 " without Key	"	7.50
"	140	250 " " "	"	8.00

Special Resistances to Order.

"	157	Mahogany Carrying Case, with handle	"	3.30

"THE MORSE-WATCH" SECRET SOUNDER.

Invaluable in Newspaper and Brokers Offices; for Train Dispatchers, Railway Stations, Linemen, Inspectors, Signal Service, Police Stations, etc. Easily adjusted, strong, durable and simple. Made in all Resistances.

Every Secret Sounder is furnished complete with Headband, Double Conducting Cord, Special Connecting Tips and fully descriptive Circular.

List No.		Price.
170	Sounder, 4 Ohms with Cords and Headband, without Key.....	$7.00
171	Sounder, 150 Ohms with Cords and Headband, without Key	7.50
172	Sounder, 250 Ohms with Cords and Headband, without Key	8.50

With Key, $2.50 extra. Special Resistances to order.

(Cut illustrates the Combination Morse-Watch with Key.)

"OMNIGRAPH" TRANSMITTER.

To be used in circuit with Learners telegraph set, or local sounder.

The very best way to learn to read by sound is in a telegraph office with the aid of an expert operator. But it is not always convenient or possible to have this advantage.

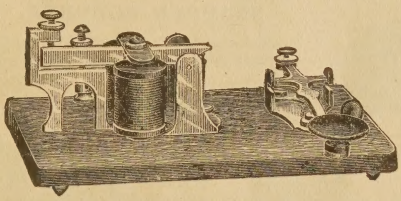
The "Omnigraph" will bring that telegraph office to you, including the expert operator. The *Transmitter* allows you to tick off a message containing every letter in the Morse alphabet absolutely correct and at any speed you desire. The dots, dashes and spaces can be seen as well as heard; it makes learning easy as well as interesting.

Measures 5x5x2 inches. Weight 1 lb. with book, "How to Become an Expert Operator." *Guaranteed to work perfectly with any instrument or on any line.*

Fourteen extra dials, each containing message, the set constituting a comprehensive dispatch of three hundred words, all the letters, numerals, punctuation marks, etc. The dials can be *changed* about, making new messages without limit, and you cannot anticipate more in ordinary commercial practice.

List No.		Price.
177	"Omnigraph" Transmitter with one dial, A to Z.....	$3.80
174	Extra Dials, each	.10

EXCELSIOR LEARNERS INSTRUMENT.



The Excelsior Learners Instrument is designed to fulfil all the requirements of a short line apparatus at the least possible cost to the purchaser.

The Sounder Magnets, Lever, Anvil and Key Lever are the same as used on our Eureka Outfit.

The frames for holding Sounder Lever and Key Lever are stamped from selected wrought iron and heavily japanned. This method of assembling insures permanent adjustment of the side motion of both Key and Sounder Lever as there are no screws to become loose.

The base is made of Mahogany, highly polished.

This is a first-class, neat and compact learner's instrument and will give entire satisfaction on lines up to five miles in length.

A copy of "Philosophy and Practice of Morse Telegraphy" is included with each instrument.

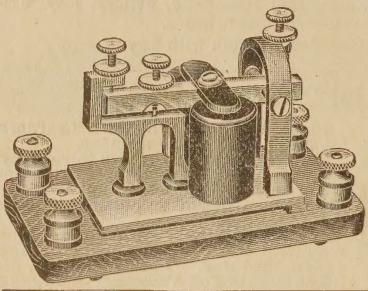
List No	180	Excelsior Telegraph Instrument, 5 Ohms, ...	Price, $2.30
"	181	" " " 20 " ..... "	2.50

MAIN LINE COMBINATION SET.

This set comprises our standard Relay, Improved Giant Sounder, and Steel Lever Key, mounted on a highly polished mahogany base. It is used extensively in private offices and other places where all of the apparatus on one base is preferable to having them on different parts of the desk.

List No. **158** Main Line Combination Set, 150 Ohms.....Price, $13.00
" **159** " " " " 250 " ..... " 13.50

Special Resistances to order.

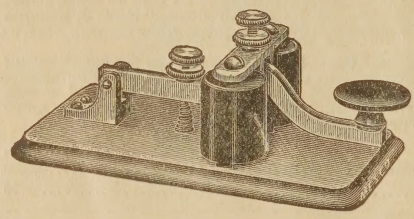


REPEATING SOUNDER.

List No. **237** Repeating Sounder. Plain points.

Price, $6.00

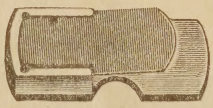
MECHANICAL TELEGRAPH INSTRUMENT.



A mechanical set for learners, requiring no battery whatever. Has full size key, complete set of adjustments and provided with special resonators that give the correct sounder "click" to the instrument.

Made in Japanned iron finish; also in brass, nickel-plated.

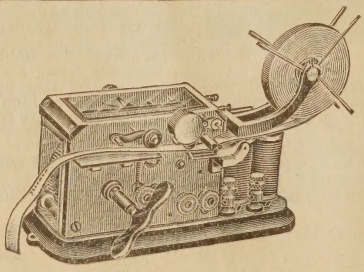
List No.		Price.
194	Japanned iron finish, each....	$1.50
195	Nickel-plated, brass, each ...	1.80



SNAPPER SOUNDER.

Makes a loud noise. The "click" being similar to telegraph sounders.

List No.		Price.
196	Complete, each.....	$0.16



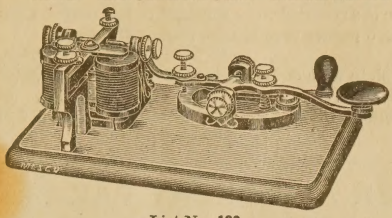
SELF-STARTING and SELF-STOPPING INK WRITING DISTRICT TELEGRAPH REGISTER

Type S.

List No.		Price.
199	Double Pen..each,	$70.00

A full line of Register parts and supplies always carried.

EUREKA COMBINATION ELECTRIC AND MECHANICAL TELEGRAPH INSTRUMENT.

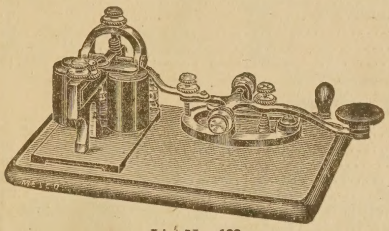


List No. 190.

Can be used with or without a battery. The mechanical attachment can be easily disconnected, when the outfit remains entirely electrical. It can be operated mechanically when the battery is in the circuit. The operation of the outfit mechanically varies in the stroke of the sounder lever, according to the adjustment of the key. The stroke of the sounder lever obtained from the use of one cell of battery is usually sufficient for ordinary practice. This result is obtained by the mechanical attachment, and the operator can manipulate the key with the same ease as with the battery current. The adjustment is simple and not easily disarranged.

The price is but a trifle more than is charged for the regular telegraph outfits.

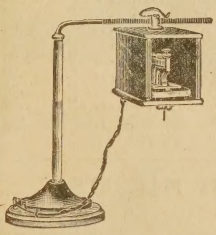
IMPROVED GIANT COMBINATION ELECTRIC AND MECHANICAL TELEGRAPH INSTRUMENT.



List No. 193.

List No. 190	Combination Eureka Set, 5 Ohms	Price, each	$3.00
" 191	" " " 20 "	"	3.50
" 192	" Improved Giant Set, 5 Ohms	"	5.00
" 193	" " " " 20 "	"	6.00

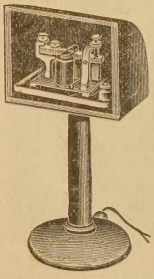
ADJUSTABLE RESONATOR FOR LOCAL SOUNDER.



The position of the Sounder, incased in the Resonator, which greatly increases and concentrates the sound, is adjustable both as to its height and lateral place, so as to be entirely convenient to the receiving operator, without affecting the work at other instruments, the sound being almost entirely confined to the immediate locality of the instrument.

Especially adapted for receiving operators using the typewriter and for noisy railroad stations, or for all situations where the sound of the instrument is subject to interference from outside noises.

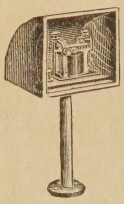
List No. 661	Complete with Cord and Sounder	Price, $9.50
" 662	Without Sounder	" 6.50



"PERFECT" PORTABLE RESONATOR.

This is the best reasonable priced Resonator made. The base of standard is broad and heavy. Conducting cords pass through the base and hollow standard.

List No.		Price.
654	Complete with Sounder and 6 ft. Cord	$6.00
655	Resonator and Base only	2.70



BRITISH P. O. PATTERN RESONATOR.

This type is arranged to be screwed to the desk. Conducting Cord passes through the hollow standard.

List No.		Price.
666	Complete with Sounder (no Cord)	$6.00
667	Cord only	.60
668	Resonator without Sounder or Cord	2.70

KEY, SOUNDER AND RELAY PARTS.

KEY

		Price
Lever only Nickel-plated, without Knob	each,	$0.60
Leg Bolts with Wing Nuts	"	.60
Circuit Closer, with Knob	"	.30
Key Knobs, 1⅛ inch diameter	"	.20
Trunnion Screw and Set Nut	"	.20
Lever Springs	"	.04
Contact Points	"	.20
Switch Knobs	"	.10

GIANT SOUNDER.

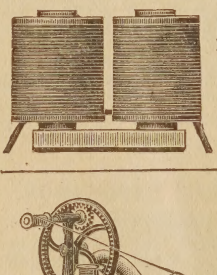
Wood Base, Polished	each,	$0.50
Springs	"	.10
Armatures	"	.40
Magnet Covers	"	.20
Levers, Aluminum or Brass	"	1.00

When ordering Levers, state whether for use with Old type Yoke, which has adjustment screw in centre of arch, or with New type, where adjustment screw is on an extension projecting from the top of the arch.

RELAY.

Wood Base	each,	$0.50
Surbase	"	.40
Adjustment Screw, with Platinum Point	"	.40
Adjustment Screw, with Hard Rubber Point	"	.30
Adjustment Spring for Armature	"	.10
Armatures	"	.60
Magnet Covers	"	.40
Front Adjustment, complete	"	1.20
Back Adjustment, Post and Nut	"	.60
Steel Springs	"	.20
Trunnion Screws	"	.10

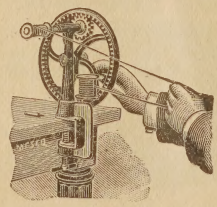
When ordering Relay parts, state whether for use with List Nos. **116** or **125**.



INSTRUMENT MAGNETS.

List No.				Price.
4994	5 Ohms resistance	Per pair,		$1.00
4995	20 " "	"		1.50
4996	40 " "	"		2.00
4997	50 " "	"		2.50

Special Magnets to order—any size.



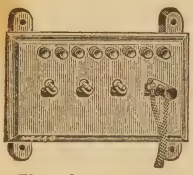
HAND MAGNET WINDER.

The engraving represents a magnet being wound from a spool of wire, which turns on a stud projecting from the clamp. A hub like that shown lying on the table is used to support the magnet, one end of the hub screwing on the spindle of the machine, the other end screwing into the thread in the magnet core. To unwind a magnet, it is placed on the stud shown occupied by the spool, and the latter is screwed on the spindle.

List No. **5015** Complete.....Price, each, $7.00

MESSAGE HOOKS.

List No.		Price.
4784	Plain, per dozen	.70
4785	Steel, nickel-plated, per dozen	$0.80
4786	Security Message Hook, 20 cents each; per doz	2.00



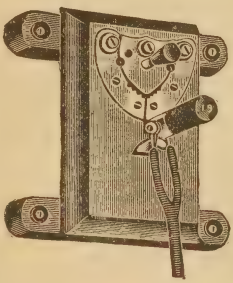
The above Cut-outs are used extensively for telegraph as well as telephone systems.

SPRING CUT-OUT.

Spring Cut-out without lightning arresters, for any situation where it is desired to connect a single instrument to any one of a number of lines by inserting plug. This cut represents one for four lines. We make them of all sizes from one wire upwards. The insertion of plug puts instruments in circuit. Withdrawal of plug "cuts out" reliably,

List No.		Price.
737	1 wire without plug and cord	$1.20
738	2 " " " " "	1.60
739	3 " " " " "	2.00
740	4 " " " " "	2.40
	(Over four Wires 40 cents per line.)	
736	Plug and 3 ft. silk cord	$1.50
747	2 ft. Cords with plug on each end	1.80

UNION SPRING CUT-OUT AND LIGHTNING ARRESTER.



This adaptation of our patent spring jack fills the place in telegraphic apparatus of the old form known as plug switch, and is the best spring Cut-out for city "branch offices" or "way offices," where it is not required at any time to make cross connections of wires or other changes besides simply changing instruments from one line to another with plug or cord.

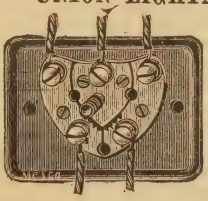
List No.		Price.
733	One Line without Plug or Cord	$2.30
734	Two Lines " " "	3.30
735	Three Lines " " "	5.00
736	Plugs with 3 ft. Cord attached, ea.	1.50

QUADRUPLEX LIGHTNING ARRESTER.

This Arrester is intended for use on the instrument table as a protector for the relays used in duplexing and quadruplexing.

List No.		Price.
993	Arrester complete, each	$2.00
994	Extra Spools	.60

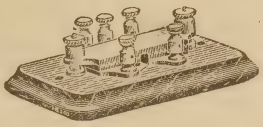
UNION LIGHTNING ARRESTER AND GROUND WIRE SWITCH.



Serves as Peg Cut-out, Lightning Arrester and Ground Wire Switch. Is an excellent and cheap form for all short lines.

List No. 749 With Pin, Complete...Price, .80

HEAVY PLATE LIGHTNING ARRESTER.



This type is used by the Western Union Telegraph Company, and gives perfect results.

List No.		Price.
992	Arrester complete	$2 50

FULL PLUG CUT-OUT.

With Lightning Arrester. This instrument complete with Plugs, Ground Wire Switch and Pin is mounted on highly polished mahogany base. Nickel-plated.

List No.		Price.
731	Cut-out complete	$3.50

PLAIN PLUG CUT-OUT.

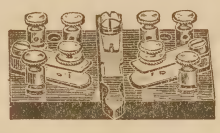
Complete with Plug. Mounted and finished same as above. Made Single and Double.

List No.		Price.
729	Single Cut-Out	$2.30
730	Double "	4.30

CUT-OUT PLUG.

List No.		Price.
728	Cut-Out Plug only, nickel-plated	$0.80

QUICK SWITCH.

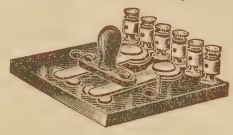


This is one of the most useful and perfect switches ever devised for throwing an instrument from one line into another by a single movement of the lever without making the slightest break in either circuit.

It can also be used as a *Cut-Out Switch* in place of the Plain Plug Cut-Out. The Quick Switch is mounted on a handsome polished hard rubber base.

List No. **732** Quick Switch.... Price, $6.70

POLE CHANGING SWITCH.



Hard Rubber Base.

All metal parts made of brass, nickel-plated. Polished rubber knob and base.

List No.		Price.
1648	With Binding Posts	$1.20
1649	Without Binding Posts	.90

Wood Base.

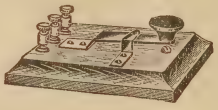
Walnut or Oak polished bases, metal parts nickel-plated.

List No.	**1650**	With Binding Posts	Price, $0.90
"	**1651**	Without Binding Posts	" .60

Combined Signal Strap Key and Lightning Arrester.

List No.		Price.
1588	Open Circuit or downward Contact	$1.80
1589	Closed " " upward "	1.80
1590	Double " " both up and down "	2.00

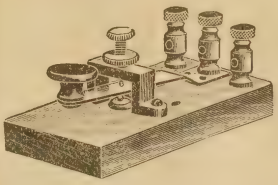
STRAP OR SIGNAL KEYS.



Open and closed circuit keys have two binding posts. Double circuit has three posts. Made with walnut or oak base.

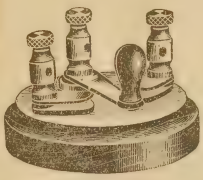
List No.		Price.
1591	Open Circuit	.50
1592	Closed "	.50
1593	Double "	.60

WESTERN UNION TYPE HEAVY STRAP KEY.



Made for heavy work and will stand hard usage. Intended for telegraph and block signal work. Has large contacts.

List No.		Price.
1020	Open Circuit	$2 50
1021	Closed "	2 50
1022	Double "	2.75



Two Point Safety Contact Switch.

Oak Base.

List No.		Price.
1024	Switch	$1.25

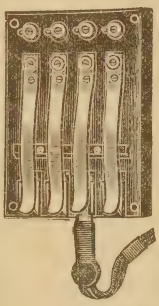


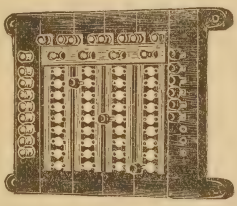
TABLE JACK SWITCH.

This is a very handy article for switching a Resonator Set of instruments to any desired line. Cut shows a four line Jack with Wedge.

List No.		Price.
243	Four Line Table Jack only	$4.80
	Additional Lines	Per line, .70
241	Wedge, with 4 ft. Cord, extra	2.50

TELEGRAPH SWITCHES.

Western Union "Button" Switch with "Plate" Lightning Arrester.



These Switches are now regarded as a standard article, having been generally adopted by the Western Union Telegraph Company, the Postal Telegraph Company, as well as by many other corporations having extensive systems of wires.

In ordering for large offices it will only be necessary to give the number and changes of wires, loops, batteries and instruments to be provided for. We have unusual facilities for the prompt and perfect construction of Switches to meet all the requirements of large offices.

List No.						Price.
714	1	Wire Way,	2	perpendicular	bars	$3.00
715	2	"	4	"	"	6.00
716	3	"	6	"	"	10 00
717	4	"	8	"	"	14.00
718	5	"	10	"	"	18.00
719	6	"	12	"	"	25.00
720	7	"	14	"	"	30.00
721	8	"	16	"	"	38.00
722	10	"	20	"	"	55.00
723	12	"	24	"	"	74.00

Over 24 bars, prices upon application.

LOOP PINS AND SWITCH PLUGS.

List No.		Price.
726	Loop Pins	$1.20
727	Switch Pins	$0.15

Western Union Spring Jack with Wedge and Cord.

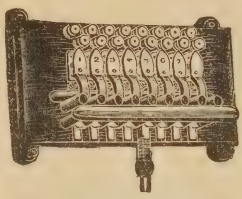


Illustration shows our Eight Line Spring Jack with Wedge and Cord.

List No.		Price.
240	Per Line	$3.50
241	Wedge, with 4 ft. Cord, extra.	2.50
242	Heavy, Flexible, Two Conductor Silk Cord.....Per yard,	.70

CONNECTORS.

Carbon Connectors for Dry Battery.

List No.		Price.
4836	Brass	$0.04

Connector for Leclanche Plates.

4837	Brass	.06

SINGLE CONNECTORS.

For sizes No. 16 and Finer.

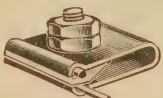
List No.		Price.
4871	Brass	$0.06

DOUBLE CONNECTORS.

For sizes No. 12 and Finer.

List No.		Price.
4869	Brass	$0.12

PIERCE TEST CONNECTOR.



Wires are held securely with solid Copper Connections between, no rocking motion when wires of unequal diameters are clamped as they are centered directly one above the other. Made of Spring Brass.

List No.		Price.
4848	Connector per 100	$9.00

AMERICAN DOUBLE TUBE CONNECTOR.

For Copper Wire.

Before Twisting.

After Twisting.

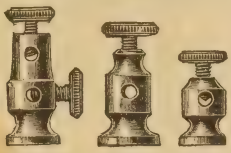
List No.						Price.
8990	For No.	16,	B. & S.	..	Per 100,	$6.68
8991	"	14,	"	..	"	7.34
8992	"	12,	"	..	"	8.00
8993	"	10,	"	..	"	8.66
9059	"	9,	"	..	"	9.34
9060	"	8,	"	..	"	10.00
9061	"	7,	"	..	"	10.66
9062	"	6,	"	..	"	12.00

For Iron Wire.

List No.		Price.
8994	For sizes 12 to 10, B. W. G. .....Per 100,	$7.34

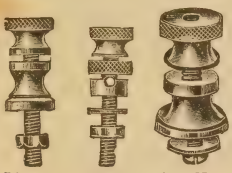
BINDING POSTS.

These Binding Posts are made of Brass and can be furnished in plain brass or nickel-plate at same price.



List No. 4834 List No. 4823 List No. 4822

List No.		Price.
4834	Nickel-plated	$0 20
4823	" "	18
4822	" "	12



List No. 4820 List No. 4821 List No. 4835

List No,		Price.
4820	Nickel-plated	$0 16
4821	" "	14
4835	English pattern, nickel-plated	14

List No. 4830 List No. 4826 List No. 4832

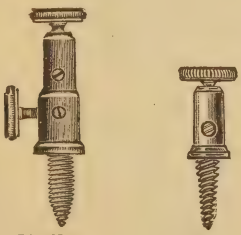
List No.		Price.
4830	Nickel-plated	$0 12
4826	" "	08
4832	" "	06

List No. 4833 List No. 4829 List No. [4825

List No.		Price.
4833	Nickel-plated	$0 06
4829	" "	06
4825	" "	08

List No. 4827 List No. 4828 List No. 4846

List No.		Price.
4827	Nickel-plated	$0 07
4828	" "	07
4846	Zinc Connector for Dry Battery	04
4847	Knurled Head Screw only for above	02



List No. 4831 List No. 4824

List No.		Price.
4831	Nickel-plated	$0 24
4824	" "	12

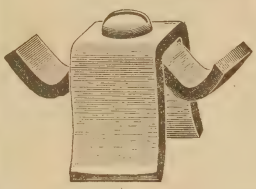
Special prices for quantities of 1,000 or more.

PAPER SLEEVES.

Our paper sleeves are used for the insulation of cables. They are made of strong, tough paper, spirally rolled by hand. Furnished in any diameter desired.

List No.		Price.
9065	Sleeves, 3 inch lengths	Per 1,000, $1.50
9066	" 18 " "	" 7.50

MESCO GROUND CLAMP.



For connecting telegraph and telephone ground wires to pipes or cables. A very handy and positive connector.

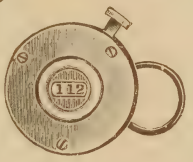
List No.		Price.
9063	Ground Clamp	$0.10

LINE TAPPING CLAMP WITH CIRCUIT CLOSER.

For establishing a temporary office anywhere on the line.

List No.		Price.
4794	Clamp	$3.50

POLE COUNTER.



Small, well made and accurate. Counts to 999 and repeats. This article will be found very useful for inspectors, line constructors, etc. Nickel-plated.

List No.		Price.
4791	Pole Counter	$5.00

W. U. TYPE FUSIBLE CUT-OUTS.

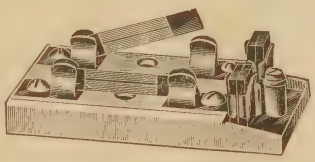
For protection against damage by lightning or heavily charged wires.

List No.		Price.
918	Single Pole Fuse Block and Lightning Arrester. Without fuse, each,	$0.18

No. 919 Fuse used with No. 918 Block.

List No.		Price.
951	Double Pole Fuse Block and Lightning Arrester with ground plate. Without fuses, each,	$0.30

No. 972 Fuse used with No. 951 Block.



List No.		Price.
959	Double Pole Fuse Block and Carbon Lightning Arrester. Without fuses each,	$0 40

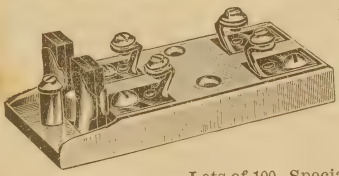
No. 988 Fuse used with No. 959 Block

Lots of 100—Special Discount.

POSTAL TYPE FUSIBLE CUT-OUTS.

List No. Price.
920 Single Pole Fuse Block and Lightning Arrester,
Without fuse.....each, $0.18
Use No. 921 Fuse with this Block.

List No. Price.
954 Dble. Pole Fuse Block with ground plate.
Without fuses .... each, $0.30
Use No. 973 Fuse with this Block.



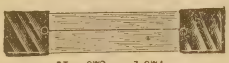
List No Price.
989 Dble. Pole Fuse Block and Carbon Lightning Arrester.
Without fuse, each, $0.40
Use No. 911 Fuse with this Block.

Lots of 100, Special Discount

STANDARD MICA FUSES.

Cuts Half Size.

No. 988 and 966.



No. 972 and 974.

No. 919 and 968

Western Union Style.

List No.		Price per 100.
988	Copper Terminal	$2.50
966	Tin Foil "	2.00
972	Copper "	2.50
974	Tin Foil "	2.00
919	Copper "	2.50
968	Tin Foil "	2.00

Packages contain 100 Fuses.

No. 911 and 967.

No. 973 and 975.

No. 921 and 969.

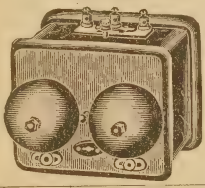
Postal Style.

List No.		Price per 100.
911	Copper Terminal	$2.50
967	Tin Foil "	2.00
973	Copper "	2.50
975	Tin Foil "	2.00
921	Copper "	2.50
969	Tin Foil "	2.00

Packages contain 100 Fuses.

Always state amperage when ordering.

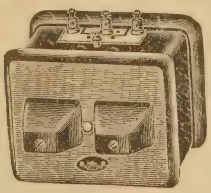
Lots of 500, Special Discount



MAGNETO EXTENSION BELLS.

Used in connection with telephones where an extra bell is wanted at a point where the regular call cannot be heard.

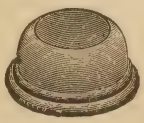
List No. **882** Wound 80 Ohms....Price, $2.50
" **884** " 1,000 " .... " 4.00
" **885** " 1,600 " .... " 4.50



EXTENSION BELLS---FANCY GONGS

Intended for use where more than one telephone or extension bell is used in the same room. The tones being different, the call on which circuit the signal is given can be determined without the use of the indicator.

List No. **886** Wound 80 Ohms.....$3.10
" **888** " 1,000 " 4.50
" **889** " 1,600 " 5.00

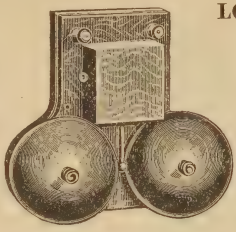


MAGNETO EXTENSION BUZZER.

In quiet places can be used in place of Extension Bell. Not much larger than a Push Button and made up in wood cases of Oak or Walnut. Size, 3¼ inch.

Gives the same sound as an ordinary Electric Battery Buzzer.

List No.		Price
912	Extension Magneto Buzzer, wound 80 Ohms for series	$1.50
914	Extension Magneto Buzzer, wound 1600 Ohms for Bridging	2.50



LOUD RINGING EXTENSION BELL.

In such common battery circuits where it is necessary to use a condenser in the ringing circuit, these bells leave nothing to be desired.

Means for adjusting the bells are provided so they can be made to ring loud enough to suit any locality. The separation of the gongs is changed by merely loosening the clamping nut and turning the gongs on their posts. All other necessary adjustments are provided for in an equally satisfactory manner.

Six-inch Gongs furnished on all Bells.

Price with condenser upon application.

List No.		Price.
901	Resistance of Ringer 80 Ohms, without Condensers	$10.80
902	" " " 200 " " "	10.98
903	" " " 400 " " "	11.10
904	" " " 1000 " " "	11.48
905	" " " 1200 " " "	11.52
906	" " " 1600 " " "	11.70
907	" " " 1800 " " "	11.88
908	" " " 2500 " " "	12.30

EXTENSION BELL SWITCH.

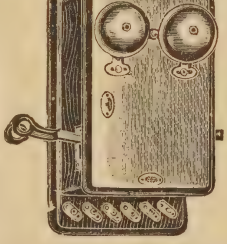
The Extension Bell Switch is used where two telephone lines terminate and where only one telephone and an extension bell are in use. It will switch the telephone to either line and always keep the extension bell on line to which telephone is not connected, or it will connect both lines in one, if desired.

List No. **748** Each.....Price $3.00

INTERCOMMUNICATING TELEPHONE SWITCH.

This Switch is made in oak only with nickel-plated lever and contacts.

List No.		Price.
751	4 Pt.	$ 60
752	5 "	65
753	6 "	75
754	8 "	85
755	10 "	1.00
756	12 "	1.15



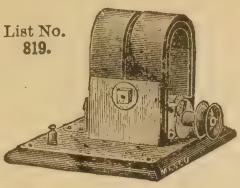
MAGNETO SIGNAL BELL.

This Bell is built for service where an extra strong current is required. Will ring through 15,000 ohms, and operate switch-board drops through 4,000 ohms resistance.

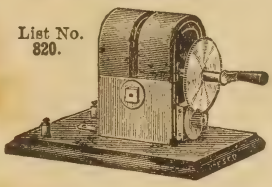
The illustration shows the advantages of our long lever hook and special binding posts.

List No.		Price.
830	15,000 Ohms (without hook)	$ 8.20
831	" " (with hook)	8.70
835	Wound 1,000 Ohms for Bridging	9.50
836	" 1,600 " " "	10.20

List No. 819.



List No. 820.

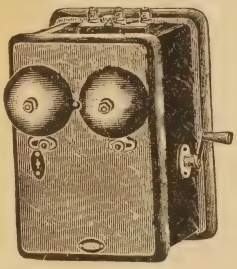


MAGNETO GENERATORS.

These Generators are same size as used in our regular Magneto Bells, with grooved pulley to take ¼-inch round belt, or with crank if desired. They are especially adapted for use in factories for testing out circuits, etc. The generator is wound to a high resistance, and can be used for telephone exchange or other signal purposes.

Will last for years.

List No.	Price.
819	$4.80
820	4.50



MAGNETO SIGNAL BELL.

These Bells are specially adapted for telephone work, are reliable and have mechanism of superior quality. The cases used are well made and finished.

Prices for Oak or Walnut.

List No. **825** To ring through 10,000 Ohms, without Automatic Hook, Price $7.20

List No. **826** To ring through 10,000 Ohms, with Automatic Hook.....Price, 7.70

MAGNETO TESTING BELLS.

These Testing Bells are first-class in every particular, and will ring through the resistance specified.

The binding posts are made to take any size wire up to No. 4 gauge. The case is made in oak only.

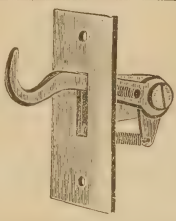
Weight about 10 lbs. Price includes strap.

List No.		Price.
875	Testing Bell, to ring through 10,000 Ohms	$ 6.50
876	Testing Bell, to ring through 15,000 Ohms	7.30
878	Testing Bell, to ring through 25,000 Ohms	8.00
879	" " " " 35,000 "	8.70
880	" " " " 50 000 "	9.50
881	" " " " 75,000 "	11.00
864	" " " " 100,000 "	14.00

LINEMAN'S TESTING SET.

Suitable for testing Electric Light, Telegraph, Telephone Lines, Cables and Wiring in Buildings A complete Telephone, size 8 inches long, 5¼ inches high, 6 inches wide, consisting of Magneto, Buzzer, Generator, Transmitter, Receiver and 2 cells Dry Battery.

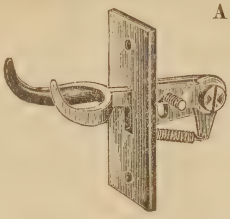
List No.		Price.
1541	With 25,000 Ohm Series Generator	$18.00
1542	" 50,000 " Bridging "	21.80



SINGLE HOOK TELEPHONE SWITCH.

This type of hook, used with watch case receivers, is well made, heavily nickel-plated and has good rubbing contacts. A fibre plate with Contact Springs is furnished with each switch.

List No.		Price.
781	Single Prong Telephone Switch	$0.60

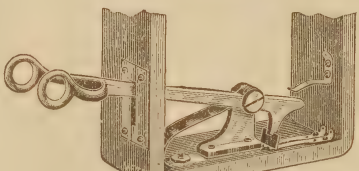


AUTOMATIC TELEPHONE SWITCH.

Easily attached to Magneto bell or transmitter box. We furnish with this hook a fibre plate with springs for attaching to inside of bell box.

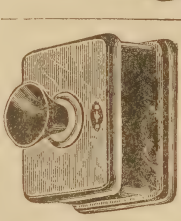
List No.		Price.
783	Nickel-plate, each	$0.70

LONG LEVER TELEPHONE SWITCH.



This is one of the most reliable telephone hooks made; has knife-edge contacts. As a large percentage of telephone troubles is due to poorly constructed switches, it is important to see that your instruments are all right in this respect.

List No.		Price.
784	Switch, Complete. Nickel-plated	$0.90



TRANSMITTER CASE ONLY.

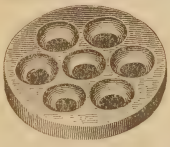
Complete with mouth-piece and nickel-plated rosette. This box is made to fit our No. **1460** Transmitter, but can be used with other makes as well.

List No.		Price.
1443	Empty Case	$0.90

CARBON DIAPHRAGMS.

$\frac{1}{64}$ inch thick.

List No.		Price.
1425	Each	$0.20



CARBON BACK FOR CARBON BALLS.

List No.		Price.
1427	Each	$0.20

CARBON BALLS.

¼ inch diameter.

List No.		Price.
1428	Per 100	$4.00

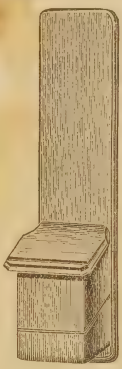
CARBON BACK FOR GRAIN CARBON.

List No.		Price.
1426	Each	$0.20

GRANULATED CARBON.

Polished and especially prepared for use in transmitters.

List No. 1429	Per ounce, domestic	Price,	$ 0.50
" 1430	" imported	"	1.40



LOCKS FOR TRANSMITTER CASES.

Our locks are the simplest and best on the market.

List No.		Price.
1444	Each	$0.10
	Per dozen	1.00

BACK-BOARD WITH BATTERY BOX.

Same size as the standard back-board in general use.

List No.		Price.
1439	With single battery box	$2.30
1440	" double " "	2.80
1441	" triple " "	3.50

TELEPHONE INDUCTION COILS.

List No.			Price.
1406	150 ohms resistance,	each,	$0.80
1407	250 "	" "	.90
1408	350 "	" "	.90
1409	500 "	" "	1.00
1410	750 "	" "	1.50

PERMANENT BAR MAGNETS.

List No. 1412

List No.			Price.
1412	Round, $\frac{11}{32}$ diameter, 5½ inches long to fit regular hard-rubber case	each,	$0.20
1413	Bobbins for above, 75 ohms resistance	each,	.32

COMPOUND BAR MAGNETS.

To Fit Regular Hard-Rubber Receiver Case. A Very Powerful Magnet.

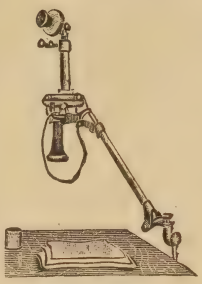
List No.			Price.
1415	Without Bobbin	each,	$0.30
1416	Bobbins for above, 75 ohms, ¼ inch hole	each,	.32

TELEPHONE FLEXIBLE CORDS.

List No.			Price.
1418	Cotton, Red and Black, or Green, 2 foot each	each,	$0.24
List No. 1419	Cotton, Red and Black, or Green, 3 foot each	"	.26
" 1420	Silk, Green, 2 foot each	"	.50
" 1421	" " 3 " "	"	.60
" 1422	" " 5 " "	"	.80

Longer Cords at special prices.

EQUIPOISE TELEPHONE BRACKET.



The Equipoise keeps the telephone out of the way when not in use and instantly brings it into position when you want it.

Swings around to any desired position, adjusts itself to any height and can be used either while you are sitting or standing.

The Equipoise can be attached to any kind of a desk or table, to a wall, post, window-casing, upper or lower side of a shelf—anywhere you want to put it. Our universal attaching device is easily fastened in any one of five different positions.

Used just as readily where there are two telephones as where there is only one.

Finished in oxidized copper.

List No.		Price.
1042	23 inch Bracket	$9.00
1044	23 in. Double Bracket for 2 Telephones	18.00

THE HANDY TELEPHONE BRACKET.

This Bracket is easily adjusted to fit any telephone base, and has double hinge, allowing it to fold out of the way at the side of the desk. Nicely finished in oxidized copper.

List No. **1045** Handy Bracket ..... Price. $2.00

THE IDEAL TELEPHONE BRACKET.

The Ideal Telephone Bracket fits any size base and can be attached to either flat or roll top desks, wall or partition. This bracket will not sag. The cord is carried in clip on top of bracket entirely out of the way. Nickel-plated.

List No. **1046** Bracket complete ..... Price, $4.00

HAND MICROPHONE.

This handy little article can be installed on bell wiring without interfering with bells.

List No.		Price.
1401	Microphone, complete with Push Button, Bell or Buzzer	$13.50
1402	Microphone only	11.50

Full directions with each instrument.

BIPOLAR RECEIVER.

This is the well-known Bipolar or two pole type. We guarantee it to give perfect satisfaction. Changes of temperature will not affect the adjustment.

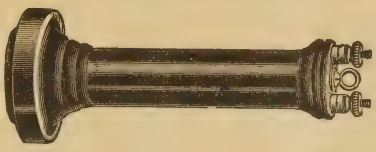
List No.		Price.
1452	Hard Rubber Shell..each	$2.10
1453	Electrose Shell..... "	1.40

POSTLESS BIPOLAR RECEIVER.

The general construction is similar to our regular Bipolar type with the advantage of inside connecting screws for the cord terminals. Extra cap and washer remove all strain from contact screws. Cords can be easily changed when necessary.

List No.		Price.
1454	Hard Rubber Shell..each	$1.80
1455	Electrose Shell..... "	1.50

STANDARD TELEPHONE RECEIVER.



The Standard Single Pole Receiver is of the well-known Compound Magnet Type. The Magnets are carefully coated to prevent rusting, and the ends rounded and Nickel-plated. The Shell is guaranteed not to break or be affected by changes of temperature so as to impair its adjustment.

List No. 1450	Hard Rubber Shell	Price, each	$1.90
" 1451	Electrose Shell	" "	1.50

Can be sent by mail; postage 23 cents.

PONY TELEPHONE RECEIVER.

Single Pole.

Size 2¼ inches diameter, weight only 6 ounces. The spool is wound with silk covered wire to the standard resistance of 75 ohms. Binding posts will not get loose. Shell of the receiver is of cast steel and is strongly magnetized. The adjustment is rigid and will not become changed even by the greatest carelessness.

List No.		Price.
1448	Wound 75 Ohms	each, $0.76

"SOLID" DOUBLE POLE WATCH CASE RECEIVER.

This Receiver has all the metal parts moulded in the case; no chance to become loosened or out of adjustment. The inside binding posts make it more convenient to hold in the hand.

Wound to 75 ohms resistance.

List No.		Price.
1449	Watch Case Receiver	$1.20

HEAD TELEPHONE RECEIVER.

The nickel-plated head-band is light and strong; easily adjusted and will not tire the head. Used with one or two receivers.

Prices are without conducting cords.

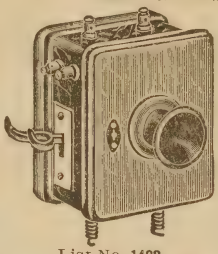
List No.			Price.
1446	With One No. 1448 Receiver	each,	$1.50
1447	With Two No. 1448 Receivers	"	2.20
1465	With One No. 1449 Receiver	"	2.50
1466	With Two No. 1449 Receivers	"	4.00

ALUMINUM DOUBLE POLE WATCH CASE RECEIVER.

New type Double Pole Watch Case Receiver. Very strong rubber cap. Aluminum case, which makes it very light. With anchor button and cords. No strain comes on cord connections.

List No.		Price.
1403	Receiver	$1.80

LONG DISTANCE TRANSMITTERS.



List No. 1493

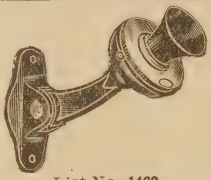
This is our No. **1461** transmitter and mouth-piece mounted in an improved transmitter box, with induction coil inside. Every transmitter described is the "best." We make but one grade. The difference in cost is governed by the trimmings. We recommend the metal enclosed type as it is less liable to be influenced by outside noises.

List No.		Price.
1492	Without Switch and Side Binding Posts	$2.80
1493	With Switch and Side Binding Posts	3.60

List No. 1497

This transmitter is the same as No. **1495**, except shorter induction coil box, and the conducting cord is concealed inside of the arm, which makes it practically a cordless arm transmitter.

List No.		Price.
1497	Hollow Arm Transmitter, with induction coil	$3.60
1498	Hollow Arm Transmitter, without induction coil	3.10



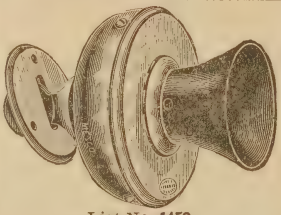
List No. **1462**

This Transmitter is our regular long distance type mounted on an arm and plate without induction coil box.

Hollow arm with conducting cord on inside.

Very neat and compact.

List No.		Price.
1462	Transmitter and Arm, without coil	each, $2 30



List No. **1459**

Long Distance Transmitter mounted on a nickel-plated Brass Knuckle Joint. Very handy for use in a limited space, and the least unsightly of any movable Transmitter made.

List No.		Price.
1459	Transmitter with Knuckle Joint, each	$2.30

LONG DISTANCE TRANSMITTER.

Plain Back.

This is our standard transmitter, furnished on all outfits having the adjustable arm; can be used to replace other types on any style of arm or attached to the wood work of telephone.

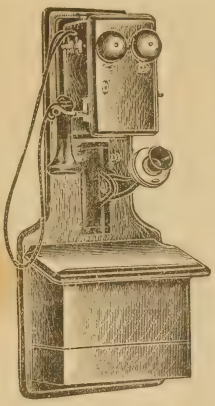
List No.		Price.
1458	Transmitter	each, $1.80

Illustration shows back of transmitter.

LONG DISTANCE TRANSMITTER.

This transmitter is arranged to be attached to the inside of bell box or used in transmitter case No. 1493 The substantial selected materials and scientific workmanship used on our transmitters are what make them talk so satisfactorily.

List No.		Price.
1460	Transmitter as shown by cut	$0.90
1461	Transmitter with mouth-piece and nickel-plated rosette	1.00



LONG DISTANCE TELEPHONE.

This instrument embodies the highest type of telephone apparatus manufactured. Every part used in its construction is carefully tested. Workmanship and finish is unexcelled.

Has our solid back, Carbon Long Distance Transmitter, concealed post Bi-Polar Receiver, Long Lever Switch, inclosed Induction Coil, high grade Magneto Bells, plate Lightning Arrester, concealed Cord Arm.

The Generators used are the highest grade made and fully guaranteed.

Bridging.

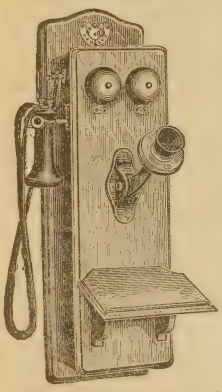
List No.		Price.
1468	1000 Ohm Ringer, 5-bar 50000 Ohm Generator	$21.50
1469	1600 Ohm Ringer, 5-bar 50000 Ohm Generator	22.00
1470	1600 Ohm Ringer, 6-bar 100000 Ohm Generator	24.00
1500	1000 Ohm Ringer 20000 Ohm Generator	18.50
1503	1600 Ohm Ringer, 20000 Ohm Generator	19 50

Series.

1505 80 Ohm Ringer, 15000 Ohm Generator 17.50

Woodwork is Walnut or selected quarter Oak highly polished.

LONG DISTANCE TELEPHONE COMPACT TYPE.



Designed to meet the demand for a neat and compact wall cabinet set for long distance series and bridging lines. The material and workmanship is the same as the apparatus described above. The Transmitter is the Long Distance type with concealed cord, Adjustable Arm without Induction Coil Box. Long Lever Hook high grade Magneto Generator, Induction Coil is fitted inside of cabinet.

The Double Pole Receiver with special binding posts will be supplied unless requested to substitute the Postless Bi-polar type at same price.

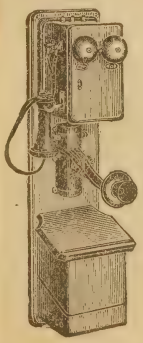
Every Telephone guaranteed.

Series.

List No.		Price.
1535	80 Ohm Ringer, 20000 Ohm Generator	$17 50

Bridging.

1472	1000 Ohm Ringer, 5-bar 50000 Ohm Generator	$21.50
1473	1600 Ohm Ringer, 5-bar 50000 Ohm Generator	22.00
1474	1600 Ohm Ringer, 6-bar 100000 Ohm Generator	24 00
1530	1000 " " 20000 " "	19.00
1533	1600 " " 20000 " "	19.70



LONG DISTANCE TELEPHONE.

This instrument is for Exchange work or private lines where not over three telephones are connected on the same line. Transmitter is the regular Long Distance type. The Magneto bell is No. **826** Series, wound to ring up to 25 miles. Receiver is the Standard or Double Pole type.

Highly finished Oak or Walnut.

Every Telephone guaranteed.

List No.		Price.
1508	One Series Telephone with 80 Ohm Ringer, 15000 Ohm Generator	$17.00

DESK INTERCOMMUNICATING TELEPHONE.

This design of Desk Telephone is neat and durable; the push button and intercommunicating switch lever and points are on top of wood base; the buzzer and induction coil are mounted inside the base. Transmitter is the enclosed solid back long distance type with adjustable knuckle joint. Hook is the latest design with non-corrosive contacts. Receiver is the double pole type with improved binding posts. Three feet of conducting cord for the line and battery are furnished with each instrument. Flexible cord for the intercommunicating switch points is charged for extra at net price of five cents per yard, per conductor. Every Telephone guaranteed.

List No.		Price
1536	One Telephone with 6 Point Switch	$15.70
1537	" " " 10 " "	16.50
1538	" " " 15 " "	16 90
1539	" " " 20 " "	18.40

Batteries not included.

STANDARD DESK TELEPHONE.

For Series, Bridging or Battery Circuits.

A neat and symmetrical instrument, thoroughly up-to-date in every item of its construction. Exposed metal parts are heavily nickel-plated and highly polished. Transmitter is Long Distance enclosed type, with adjustable knuckle joint. Receiver Hook is latest design, double prong with Non-corrosive contacts. Receiver is Double Pole Postless Bi-polar type.

For series line a Magneto Bell with 80 Ohm ringer magnets is required in addition to the desk apparatus.

For ridging line a magneto is required with 1000 to 1600 Ohm ringers to equalize with other bells on the circuit.

For plain battery call circuits, a push button, buzzer and battery are required extra.

Can also be used on an intercommunicating system with necessary switching apparatus and push buttons mounted on separate base.

Series.

List No.		Price.
1048	Desk Set, complete with 80 Ohm Ringer, 15000 Ohm Generator,	$25.60

Bridging.

1049	Desk Set, complete with 1000 Ohm Ringer, 20000 Ohm Generator	$26.00
1050	Desk Set, complete with 1000 Ohm Ringer, 5-bar, 50000 Ohm Generator	28.60
1051	Desk Set, complete with 1600 Ohm Ringer, 5-bar, 50000 Ohm Generator	29.10
1052	Desk Set, complete with 1600 Ohm Ringer, 6-bar, 100000 Ohm Generator	31.10

Battery Call.

1518	Desk Set, complete with Buzzer and Push Button on a separate base	15.60

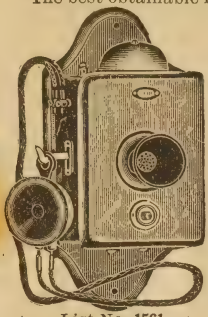
Batteries not included.

SHORT LINE AND INTERIOR TELEPHONES.

The best obtainable materials are used in the construction of these Phones and each one is thoroughly tested before leaving factory.

Every Phone is guaranteed to give satisfaction.

These Telephones are put up each in a neat box with full directions for installing.



List No 1561

Short Line Battery Phone.

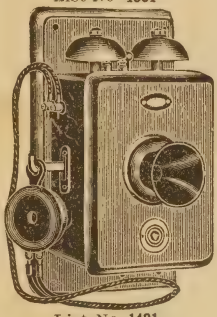
For Hotels, Apartment Houses, Stores, Factories, Private Residences, Bank and Office Buildings, and all purposes where a private line telephone is desired.

A neat, compact, reliable and finely finished apparatus; used for interior or outdoor lines up to 500 feet in length.

As easy to install as an ordinary Electric Bell.

The Transmitter is our long distance solid back type; Pony Receiver with nickel-plated steel back. Vibrating Bell is enclosed inside the case with gong only exposed; a neat nickel-plated push button is mounted on the front of case under the transmitter mouthpiece; the case is made of Oak, cabinet finish.

List No,		Price
1561	One Telephone, complete without battery.....	.....$5.00



List No. 1481

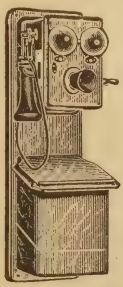
Double Gong Short Line Phone.

This Telephone is the same as the above, with the exception of having two gongs instead of one which gives it a neater appearance and somewhat louder signal.

List No.		Price.
1481	One Telephone, complete, without battery.....	.....$5.30

TELEPHONE APPARATUS.

For Series Work Only.



List No. 1515

Furnished with Standard Telephone Receiver.

The Magneto bell is our standard pattern and will operate equally well on long or short lines.

The Transmitters furnished with these outfits are the same in construction and operation as used on our expensive instruments.

Two Mesco Dry Batteries are included with each outfit.

They are reliable and compact, carefully constructed and neatly finished.

We can recommend these outfits for use on any telephone circuit.

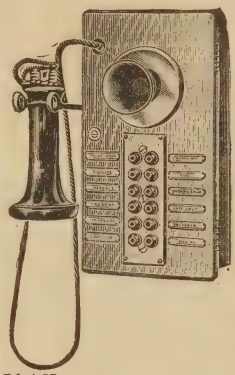
List No. 1514

No. 1514.

This outfit is the same as the No. **1515** described above, with the exception that it has no back-board and battery box.

List No.		Price.
1514	One Series Telephone, 80 Ohm Ringers, 15000 Ohm Generator ..	$12.00
1515	One Series Telephone, 80 Ohm Ringers, 15000 Ohm Generator..	14.40

FLUSH TYPE.



Capacity 6 to 31 Stations inclusive.

Six Station Phone is 7⅞ inches long, 4¾ inches wide.

Non-interfering. Sets flush with the wall. Pressed steel outlet boxes provided with necessary knock out points for Iron or Flexible conduit.

Outlet box is separate from Phone and can be installed with other rough work.

All the mechanism is attached to front of Phone which is hinged to outlet box, permitting easy access to inspect or connect, without disturbing the surrounding wall.

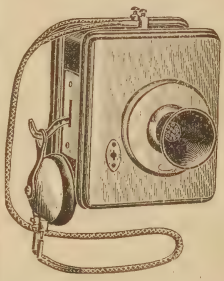
Front made up in any wood or finish to match trim.

Easy to install, all connections plainly marked.

List No.		Price.
1055	Two to ten Station including Outlet Box and Terminal Board	$25 30
	For each additional Station over 10	1 40

Batteries extra.

HOTEL AND APARTMENT HOUSE TELEPHONE.



Will be found unequaled for Hotel, Apartment House or Factory work.

The parts are all high-grade, Transmitter is our Solid Back Long Distance Type, and Receiver is our Solid Back Watch Case Type with cord.

Each Phone has a Buzzer for signal purposes mounted in case and push button mounted on the right side.

This Phone can be furnished with bell in place of buzzer at a special price.

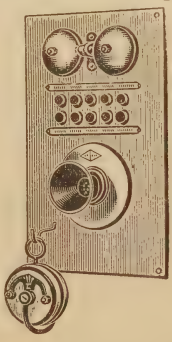
Stock finish is Oak. Can be made in any wood and finish to match trim at a special price.

All exposed metal parts are nickel-plated.

Wiring diagrams and full directions furnished with each instrument.

List No.		Price.
1560	Telephone, complete, without Battery	$6.30

Apartment House Telephone.



To be installed in vestibule, acting as central station for telephones in various apartments.

Pushing in button calls desired party. Removable name plates of celluloid. This Phone has mechanism attached to face plate and can be furnished for any number of stations.

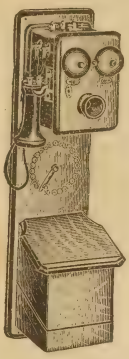
Depth back of face plate 2½ inches. Size of 10-Station Phone 9¾ inches long by 5¾ inches wide.

Fronts are of metal, nickel-plated. Special finishes to order.

List No.		Price.
1057	Apartment House Phone, 6 Stations	$17.00
	For each additional two Stations over 6	1.40

Batteries extra.

INTERCOMMUNICATING TELEPHONE.



Where a Magneto Generator Call is preferred to the battery signal, this outfit will fulfil all requirements. The Mageto Generator and Ringer Coils are wound to ring through 10,000 ohms resistance. Transmitter is the long distance solid back type. Double pole Receiver with improved binding posts.

Intercommunicating switch is arranged so that each station can be called regardless of the location of switch lever.

Metal parts and wood-work finely finished.
Furnished in either Oak or Walnut.
Every Telephone guaranteed.

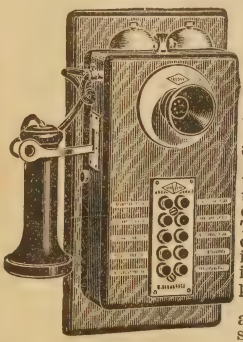
List No.		Price.
1559	Telephone, complete, with 6 Point Switch, without Batteries	$15.00
1564	Telephone, complete, with 12 Point Switch, without Batteries	15 20
1565	Telephone, complete, with 15 Point Switch, without batteries	15.60
1549	Telephone, complete, with 20 Point Switch, without Batteries	15.80

Intercommunicating Switchless Telephone.

This instrument is artistically designed and an ornament to any desk. The base is made of cast metal, finished in highly polished nickel in which the Intercommunicating Switchless Mechanism is enclosed. Each instrument is fitted with a Solid Back Bell Type Transmitter, and Solid Bi-Polar Receiver. Contact points of hook are enclosed, thereby affording protection from dust and mechanical injury. Instruments are furnished with a three-foot Compound Conducting Cord, without extra charge. No expense has been spared in the manufacture of this Desk Set to make it mechanically and electrically perfect.

List No.		Price.
1506	One Automatic Switchless Desk Telephone, up to 10 Stations complete, without batteries.	$29 30
	Over 10 Stations, per Station extra	1 00

Intercommunicating Switchless Telephone.



We call attention to the following advantages which this type of Automatic Switchless Telephone holds over the ordinary forms of Intercommunicating Apparatus:

FIRST.—Any station may be called by pressing the button, with the receiver either on or off the hook. When the receiver is put back on the hook, the connections are automatically restored.

SECOND.—By holding the button down on the first call and pressing any other button, one or more additional parties may be cut in and take part in the conversation. This feature is possible only with this type of "Automatic Switchless" Apparatus, and in itself saves more time than all the recent improvements in Intercommunicating Telephones put together.

THIRD.—The act of pushing in the button all the way calls the station. When the pressure on the button is removed, it comes back half way and cuts in the talking circuit.

Two more wires should be run than there are stations to be connected, one of the two is used as Common Return Talking Wire, and the other one for Ringing Battery Circuit. One more station than keyboard buttons indicate, can be accommodated on system. At each station there are required two cells of battery for talking. For ringing only one set of three or four batteries is required.

List No. 1507 Telephone complete, 2 to 10 Stations.....Price, $17.00
Over 10 Stations, per Station, extra ..... .70
Batteries extra.

TELEPHONE LINE DIAGRAMS.

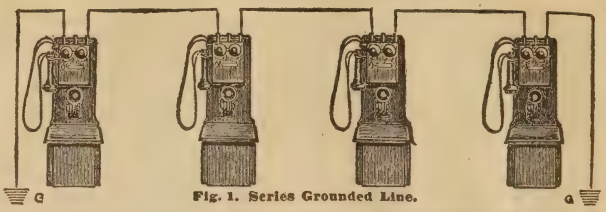


Fig. 1. Series Grounded Line.

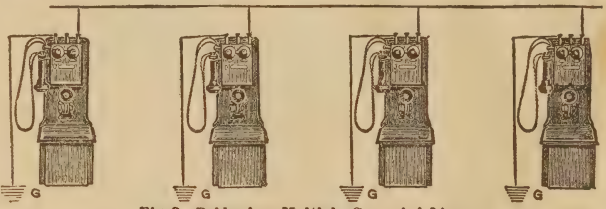


Fig. 2. Bridged or Multiple Grounded Line.

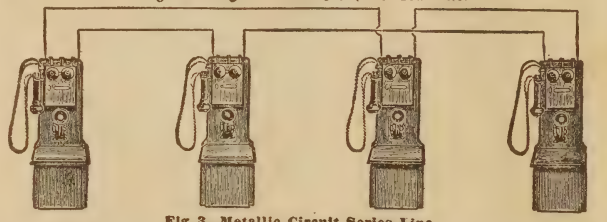


Fig. 3. Metallic Circuit Series Line.

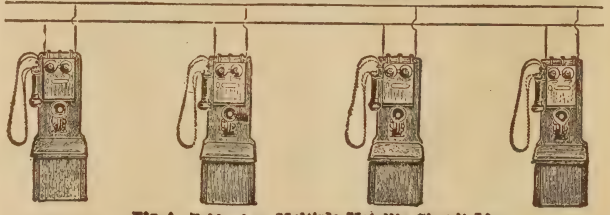
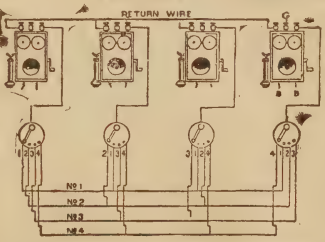


Fig. 4. Bridged or Multiple Metallic Circuit Line.

THE INTERCOMMUNICATING SYSTEM.



Is a central office in itself with its own switching device. It is intended for use in offices and buildings where the expense of employing an operator would make a switchboard system prohibitive. It is thoroughly practicable up to twenty stations; beyond that number we would advise the switch-board system.

We make both metallic circuit as well as common return systems, and also instruments provided with generator call in place of the push button and bell signal. The generator is highly desirable on lines exceeding six hundred feet in length, and also has an advantage in requiring no central ringing battery, as in the push-button system. It makes, however, a larger and more cumbersome instrument. Diagram shows a method of arranging circuits that allows of any one station being put into communication with any other on that system by the operator himself. This system is specially adapted for communication in hotels, factories, office buildings, or any place where wires are all under one roof.

CAST BRONZE PUSH BUTTONS.

No. 1101.

No. 1102.

No. 1103.

No. 1104.

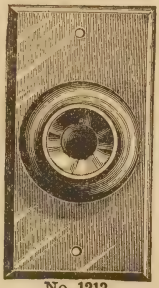
No. 1107.

No. 1127.

No. 1204.

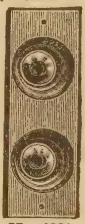
No. 1205.

No. 1206.


No. 1213.

No. 1214.

No. 1218.


No. 1221.

List No. 1101	Size 2¾x5 ins.	LOOSE BACK.	Fin. in Nos. 1, 3, 6, 7 & 9	Price ea., $0 66
" 1102	" 2⅛x4¼ "		" " 1, 3, 6, 7 & 9	" .56
" 1103	" 2⅝x4⅝ "		" " 1, 2, 6, 7 & 9	" .64
" 1104	" 2¾x7 "		" " 1, 2, 6, 7 & 9	" .80
" 1107	" 2⅞x4 13/16 "		" " 1, 2, 6, 7 & 9	" .74
" 1127	" 2 x4 "		" " 1, 3, 6, 7 & 9	" .56
" 1204	" 2⅝x7⅛ "		" " 1, 2, 6, 7 & 9	" .76
" 1205	" 2⅜x4 13/16 "		" " 1, 2, 6, 7 & 9	" .72
" 1206	" 2¼x4¼ "		" " 1, 2, 6, 7 & 9	" .56
" 1213	" 2⅜x4½ "		" " 1, 2, 6, 7 & 9	" .56
" 1214	" 1⅞x4 "		" " 1, 2, 6, 7 & 9	" .50
" 1218	" 2⅝x5¾ "		" " 1, 2, 6, 7 & 9	" 1.04
" 1221	" 2⅜x7⅛ "	SCREW CAP.	" " 1, 2, 6, 7 & 9	" 1.20
" 1222	3 Push.		" " 1, 2, 6, 7 & 9	" 1.84
" 1223	4 "		" " 1, 2, 6, 7 & 6	" 2.10

For Finish Nos. 4, 5, 8 and 10, add 10 per cent.

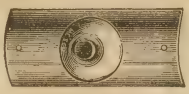
All of our Cast Bronze Push Buttons are made from the best solid bronze metal. They are highly polished, with even surface, and no sand holes appear on them. The metal is lacquered with a material that not only preserves the color, but protects the polished surface from the weather for a long period without discoloring.

All of the different finishes are on bronze, either dipped or plated.

The prices quoted with each push is for the finish designated by the following numbers:

Finish No. 1, Bronze, Polished (Natural Color of Metal). 2, Nickel Plated. 3, Polished Bronze, inlaid with Black. 4, Silver Plated. 5, Silver Oxydized (Mottled). 6, Antique Copper (Dark Color). 7, Copper Oxydized (Mottled). 8, Bower Barff (Dead Black). 9, Brass (Plated). 10, Sand Blast (or Satin) on Bronze, unless otherwise specified; having the appearance of a dull, wrought copper finish.

CAST BRONZE PUSH BUTTONS.

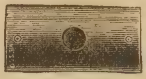


List No.			Price each.
1236	Size 2⅛x4¾,	Screw Cap, for 2¼ in. bead,	$0.88
1237	" 2 x4	" " 3⅜ "	.88
1238	" 1¾x4	" " 1⅝ "	.74

Regular Finish of above, Nos. 1, 2, 6, 7 and 9.
For Finish Nos. 4, 5, 8 and 10, add 10 per cent.

No. 1124.

No. 1240.



No. 1241.

List No. 1124	Size 1⅜x3⅜,	Finish Nos. 1, 3, 6, 7 and 9	price each,	$0.38
" 1240	" 1⅜x3⅜,	" 1, 2, 6, 7 and 9	"	.38
" 1241	" 1½x3,	" 1, 2, 6, 7 and 9	"	.38

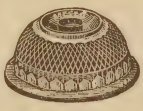
Made either convex or flat. For Finish Nos. 4, 5, 8 and 9, add 10%.

Doctor's Bell. List No. 1243. **Janitor's Bell.** List No. 1244. **Night Bell.** List No. 1245. **Dentist's Bell.** List No. 1246.

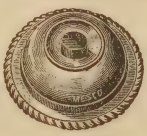
List No.				Price.
1243	Size 4¼x2¼ in.	Finish Nos. 1, 2, 6, 7 and 9,	each	$0.66
1244	" 4¼x2¼ "	" 1, 2, 6, 7 and 9,	"	.62
1245	" 4¼x2¼ "	" 1, 2, 6, 7 and 9,	"	.62
1246	" 4¼x2¼ "	" 1, 2, 6, 7 and 9,	"	.62

For Finish Nos. 4, 5, 8 and 10, add 10 per cent.

Order push buttons by number. The style of finish is designated by number.

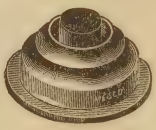


No. 1302

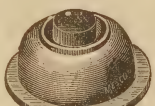


No. 1305

No. 1306

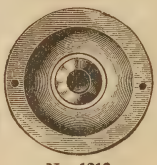


No. 1311



No. 1312.

No. 1313.



No. 1316.

No. 1319.

List No. 1302	Size 2⅜ in., Screw Cap	price each	$0.46
" 1303	Same as 1302, but Loose Back	"	.34
" 1305	Size 2½ in., Screw Cap	"	.46
" 1306	" 2⅜ " "	"	.46
" 1311	" 1⅝ " "	"	.30
" 1312	" 1⅝ " "	"	.30
" 1313	" 1⅝ " "	"	.30
" 1316	" 2⅛ " Loose Back	"	.28
" 1319	" 2¼ "	"	.28

List No. Price each.
1383 Bronze Name Plate and Push Button, size 2⅝ in. $0.38
1388 Bronze Name Plate, 1x2⅜ inches .10
Finish Nos. 1, 2, 6, 7 and 9.
For Finish Nos. 4, 5, 8 and 10, add 10 per cent.

WATER-TIGHT PUSH BUTTON.

This makes a perfect water-tight push, reliable in every respect. They are being used on government steamships, in mines, vaults, cold storage and ice houses, and in thousands of other damp places.

List No. 1375	Platinum Contacts, each	price,	$2.30
" 1376	Without Platinum "	"	2.00

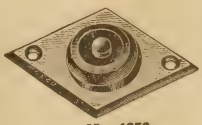
Finish Nos. 1 to 10.

FANCY PUSHES.

(Cuts ½ Size.)

No. 1353

List No.		Price.
1353	Wood Midget	$0.12
1354	Rubber "	0.24
1356	Bronze or Nickel Plate, with Hard Rubber Midget, each	0.44



No. 1356

Small Desk Push Buttons.

(Cuts ½ Size.)

No. 1332

No. 1333

No. 1334

No. 1337

No. 1339

List No.		Price.
1332	Centers in black and white. Trim'gs bronze or nickel. Fits ¾ inch hole	$0 30
1333	Centers in pearl, light or dark. Rim in brass or nickel, ⅝ inch hole	0 18
1334	Centers in pearl light or dark Rim in nickel, ⅝ inch hole	0 14
1337	Centers in black, nickle rim, ½ inch hole	0.16
1339	Centers in black, nickel or bronze rim, ½ inch hole	0.12

Paper Weight Wood Desk Push.

Polished Wood Push, with lead in bottom. Very convenient and neat.

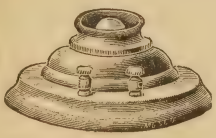
List No.		Price.
1258	Oak only, each	$0.50

Wooden Push Buttons.

SIZE 2⅛ INCHES.

List No.	Polished finish.	Price.
1341	Walnut	each, $ .10
1343	Ash	" .10
1344	Stained Cherry	" .10
1345	Antique Oak	" .10
1346	Oak	" .10
1347	Mahogany	" .10

Extension Push Buttons.



Can be used as a regular push button, and by attaching a double conductor flexible cord with pear push or table clamp on the end. the circuit can be extended to a bed for the convenient use of a sick person, or to desk, table, etc.

List No.		Price.
1364	Walnut or Oak, each	$0 40

PEAR SHAPE PUSHES.

No. 1369.

List No.		
1369	Length 2⅞ in.	$0.18
1378	" 3¼ "	.28

List No. **1369**—Finely finished in Ash, Oak, Cherry, Walnut and Mahogany.

List No. **1378**—Extra fine finish, with polished Bone Extension and Push, Ash, Oak, Walnut or Mahogany.

No. 1378.

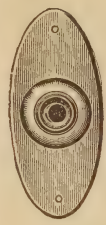
Stamped Metal Push Buttons.

1272

1273

1274

1275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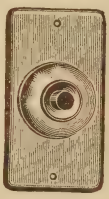
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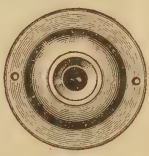

1395

These pushes have loose backs, are well made and highly polished.

List No.			Price.
1272	Finish Nos. 1, 7, 8 and 11, Per Doz		$4.80
1273	"	"	4.80
1274	"	"	4.80
1275	"	"	4.80
1276	"	"	4.80
1277	"	"	4.80
1391	"	"	4.80
1392	"	"	4.80
1393	"	"	4.80
1394	"	"	4.80
1385	"	"	4.80
1395	"	"	2.16

DOUBLE PEAR SHAPE PUSH.

Has one nickel-plated and one hard rubber push. Is used for lighting and extinguishing automatic gas burners and other purposes where two pushes are required.

List No.		Price.
1370	Length, 3 in	Each, $0.34

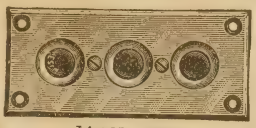
ELECTRIC TABLE CLAMP.

(Cut ¼ Size.)

For clamping on dining-room table or other movable furniture. Very handy when used with Combination Floor Push.

List No.		Price.
1261	Nickel-plated, Pearl Center	$0 50
	Silk Cord, extra, per yard	.20

Nickel-Plated Compound Push Buttons.

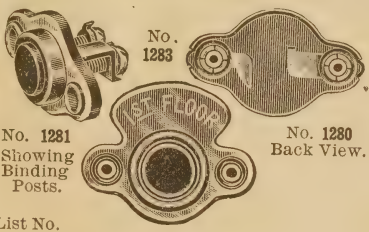


List No. 1250.

Plate is polished Bronze or Nickel-plated, either White or Black Centers.

List No.						Price.
1249	2 button,	size 2	x3	in.	each	$0.50
1250	3 "	" 3⅞	x1⅞	"	"	0.70
1251	4 "	" 5	x1⅞	"	"	0.90
1252	5 "	" 6	x2	"	"	1.10
1253	6 "	" 7	x2	"	"	1.20

Mesco Flush Desk or Car Push.



No. 1281 Showing Binding Posts.

No. 1283

No. 1280 Back View.

Requires no hole except one for the wire. Size 1⅜x⅞ inches. Pearl centre with bronze or nickel rim. Binding post type requires 1½ inch hole.

List No.		Price.
1280	Without Binding Posts	$0.20
1281	With 2 " "	0 25
1282	" 3 " " Return Call	0.30
1283	Name Plate push 2 Binding Posts	0.36
1284	" " " 3 " " return call	0.40

Single and Double Metal Pear Shaped Pushes.

These pushes are made of brass and finished in Bronze or Nickel-plate.

List No.		Price.
1377	Pear Push	$0.40
1380	Double Push	1.10

REGULAR FLOOR FOOT PUSH.

(Cut ¼ Size)

Generally used under dining-room table for signaling attendant.

List No.		Price.
1263	Nickel-plated, each	$0.40

COMBINATION FLOOR PUSH.

(Cut ¼ Size.)

Same as regular floor push with extension attachment for connecting flexible conducting cord with Pear Push or Table Clamp.

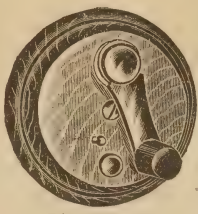
List No.		Price.
1264	Nickel-plated, each	$0.50

PORTABLE FLOOR TREAD.

This article is to be used under carpets or rugs. No hole is necessary. The location can be easily determined by the foot.

The tread may be moved about to suit the user without change of wiring as contact may be made from any point. Will not mar hard-wood floors.

List No, 1139 Floor Tread.....Price. $1.00



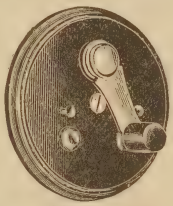
List No. 1606

WOOD SWITCHES.

Wood Switches made in Ash, Oak, Cherry and Walnut.

ROUND WOOD.

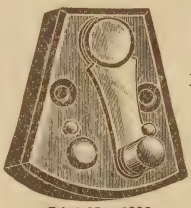
List No.						Price.
1606	1 point	2¼	inches	diameter	each,	$0.14
1607	2 "	2¼	"	"	"	0.15
1608	3 "	2¼	"	"	"	0.18
1609	4 "	2¼	"	"	"	0.19
1610	5 "	2¼	"	"	"	0.23
1611	6 "	2¼	"	"	"	0.25
1612	7 "					0.29
1613	8 "					0.31
1614	9 "					0.33
1615	10 "					0.35



List No. 1617

Round Rubber Switches.

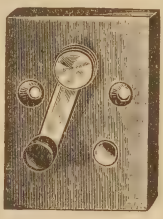
List No.						Price.
1616	1 point,	2⅝	inches	diameter		$0.56
1617	2 "	2⅝	"	"		0.58
1618	3 "	2⅝	"	"		0.60
1619	4 "	2⅝	"	"		0.62
1620	5 "	2⅝	"	"		0 92
1621	6	2⅝	"	"		0.94
1622	7					0.98
1623	8					1.00
1624	9					1.02
1625	10					1.04



List No. 1226

Keystone Polished Rubber.

List No.						Price.
1626	1 point,	2	inches	long	each,	$0.36
1627	2 "	2	"	"	"	0.40
1628	3 "	2	"	"	"	0.44
1629	4 "	2	"	"	"	0.60



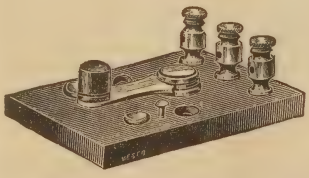
SQUARE WOOD AND RUBBER BASE SWITCHES.

Nickel-plated Trimmings.

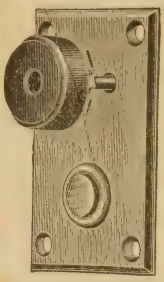
List No.			Price.
2000	1 Point,	Wood Base	$0.26
2001	2 "		.28
2002	3 "		.30
2003	4 "		.34
1630	1 "	Rubber Base	.42
1631	2 "		.44
1632	3 "		.46
1633	4 "		.50

WOOD AND RUBBER BASE SWITCHES.

WITH BINDING POSTS.



List No.			Price.
1638	Wood Base,	1 point	$0.46
1639	"	2 "	.50
1640	"	3 "	.56
1641	"	4 "	.64
1642	Rubber Base,	1 point	.64
1643	"	2 "	.70
1644	"	3 "	.80
1645	"	4 "	.94



Combination Wall Plate and Plug.

This article consists of a bronze metal wall plate with push button and a detachable extension plug.

A flexible cord of suitable length and a pear push may be attached to plug enabling call to be made from any part of room.

Especially adapted for private rooms in hospitals, bedrooms, dining rooms etc. Size, 2 x 3 inches.

Finished in nickel-plate and Polished Bronze for stock. Special finishes to order.

List No.		Price.
1142	Wall Plate and Plug	$1.00

No. **1570**

DOOR TRIP.

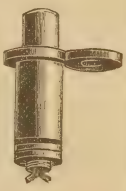
List No. **1570**

For use over store doors to announce entrance of customer. Rings signal when door passes the trip, but is silent when open, and in closing door.

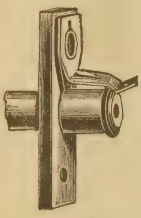
List No.		Price.
1570	Size 2 in ..... each,	$0.40

Open Circuit Telescope Door Spring.

List No.		Price.
1571	Size 1⅞ in ..... each,	$0 12



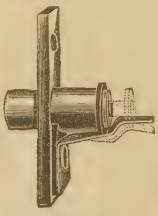
No. **1571**



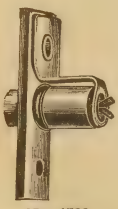
No. **1567**

Door Springs.

List No.		Price.
1567	Each,	$0.16
1568	Closed circuit	.18

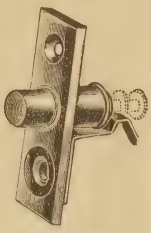


No. **1568**



No. **1566**

List No.		Price.
1566	Each,	$0.11
1569	Make and break, ... each	.18



No. **1569**

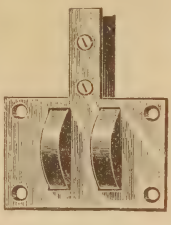
Circuit Closing Attachment for Door Pull.

The Circuit Closer is designed for connecting a mechanical door pull, so as to ring an electric bell located anywhere in the house. It can be attached without displacing the bell pull already in use, and may be so arranged as to operate both the mechanical and electrical bells from the same pull.

List No. **1594** Door Bell Pull Attachment, complete ..... Price each, $0.30

Burglar Alarm Window Spring.

Double Window Spring.



Transom Spring.

For Swinging Windows

Window Spring.

List No.		Price	List No.		Price	List No.		Price
1575	Each.....	$0.22	1573	Each.....	$0.46	1574	Each.....	$0.18

The cord of a spring shade is attached to the arm. The slightest interference with the shade will sound the alarm.

List No.		Price	List No.		Price	List No.		Price
1579	Each.....	$0.46	1576	Each....	$0.22	1577	Each.....	$0.30

The Ezytest Window Spring.

(PATENT APPLIED FOR.)

The "Ezytest" Window Spring is designed to overcome the objectionable features of the ordinary types heretofore used.

With all other types it is necessary to remove the window strips and sashes every time a test is made; but with the "Ezytest" this extra work is obviated as each spring can be tested without the removal of either strips or sashes. This is accomplished by both contacts being insulated from the plate and the current conducted from one contact to the plate through the pivoted circuit breaker (designated by arrow in the cut.)

In case of a short circuit in any section of the system, the circuit breaker can be operated from the front of the plate, and by a few minutes work the spring in which the trouble exists can be located. If the circuit breaker should be left open, the closing of the window will automatically restore the circuit.

The metal tongue which presses in the groove of the sash is so constructed that it will operate satisfactorily with the end of the sash groove, either squared or beveled.

List No.		Price.
1578	Ezytest Window Spring	$0.32

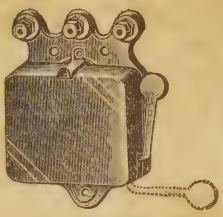
Automatic Drops.

Continuous ringing attachment for burglar alarms, bells and Magneto circuits.

These drops are used for closing a bell circuit automatically, and keeping it closed as long as desired.

List No.		Price
1580	Wood Box for Battery Circuit, each	$1.30
1581	Wood Box for Magneto Circuit, 80 ohms each	2.00

No. 1580



No. 1582

List No.		Price.
1582	Iron Box for Battery Circuit.....each	$1.00
1583	" " " Magneto " 80 ohms. "	1.70

No. 1584

Finished in Oak.

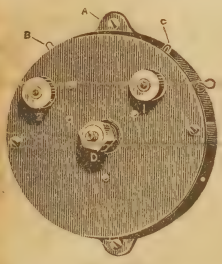
Nickel-plated Trimmings.

List No.		Price
1584	For Battery Circuit.....	$1.10

This is an old favorite with our trade.

BURGLAR ALARM TRAPS.

Johnson Burglar Alarm Trap.



No. 1585

Illustration half size.

This is the most convenient and reliable Burglar Alarm Trap manufactured. The mechanism is so arranged that the black string is automatically wound inside of the case when the trap is not in service.

To set the trap attach the end of the cord to a small hook which can be placed within 12 feet of the trap so that the string will be disturbed by an intruder when entering or while passing through a room or hallway. After the string is attached move the needle contact "A" to the centre of slot in top of trap and tighten thumb nut "D". Any disturbance of the string either by running against it or breaking it, will close the bell circuit and cause the bell to ring until the circuit is opened by a switch

Constant Ring. Easily Set.

Or at the trap. The string can be attached to a door or window or across the stairway, hall or room, or any place where it is apt to be disturbed.

It will also act as a *Fire Alarm* if the string should be burned.

The expense of a complete working outfit is very moderate, all that is required is one vibrating bell of suitable size, two or three Mesco dry batteries, sufficient wire to make connections and as many traps as may be desired, all of which can be connected in the one circuit.

An excellent protector for furnished houses while temporarily unoccupied.

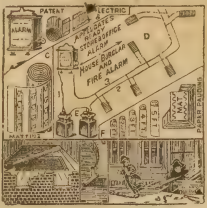
List No. 1585 Each.....Price, $0.75

BURGLAR ALARM TRAP.

The slightest disturbance of string draws the needle to the right and closes bell circuit, and if the string is broken the spring draws needle to the left, when the circuit is completed and bell gives an alarm.

List No.		Price.
1605	Each.....	$0 25

Electric Burglar Alarm Matting.

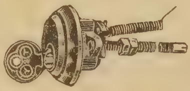


Only Two Wires to Run.

The matting is easily and quickly fi without disfiguring or disarranging the niture or fixtures. If the matting is placed at the entrance to an apartment, no person can enter it without sounding an alarm that will attract attention. Properly adjusted throughout a building, no burglar or sneak thief can enter without starting an alarm.

List No.		Price.
1604	Per square foot	$0.36

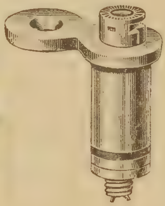
Burglar Alarm Lock Switches.



These Switches are placed on the doors of stores, residences and other buildings connected with burglar alarm systems, so that persons having the proper keys can go in or out of the building without ringing the alarm.

List No.		Price.
1602	Yale Lock (3 Keys), with Rod	$3.50
1603	Corbin Lock (3 Keys), with Rod	3.00
1647	Competition Lock (3 Keys), with Rod	2.00

Burglar Alarm Floor Spring.



Something out of the ordinary in burglar alarms. Spring is placed on floor in front of safe with leg of a chair on the spring. When chair is removed, spring is released, closing the circuit. When alarm is not in use, simply press down plunger, turning slightly to either side, which locks it.

List No.		Price.
1586		$1.00

Burglar Alarm Annunciators.

List No. 1708

This Burglar Alarm Annunciator has gravity drop, constant ring, silent test and sectional switches. The case is well finished and substantially made, and so constructed that it may be removed, leaving the backboard on which the drops are mounted attached to the wall so they may be easily inspected.

The metal base of switches are numberered or lettered to correspond with drop tag. All exposed metal parts heavily nickel-plated.

Furnished in Oak, Walnut, Mahogany or Cherry, at short notice.

Every instrument guaranteed.

List No.		Price.
1705	Burglar Alarm, 4 Drop, without Bell	$12.50
1706	" " 5 " " "	13.00
1707	" " 6 " " "	16.50
1708	" " 8 " " "	18.00
1709	" " 10 " " "	19.50

Automatic Clock Burglar Alarm.

List No. 1711

The Most Perfect Burglar Alarm Made.

Has fifteen-day Seth Thomas Pendulum Clock, which automatically disconnects any sections that are switched on the left hand points and rings servants' call at time indicated by setting the small centre dial.

The attachments and their uses are as follows:

The Silent Test—to indicate when the house is properly closed.

The Bell Test—to indicate if bell and line are in proper order.

The Battery Test—to indicate if the battery is in proper order.

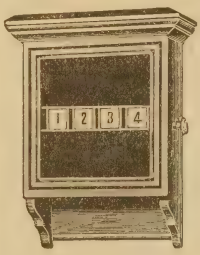
The Constant Ringing Switch—causes the bell to ring continuously until disconnected at the instrument.

The Servants' Call Switch—causes servants' bell to ring at any time desired.

The highly finished case can be furnished in any wood to match trim.

List No.		Price
1710	Six Section Alarm	$56.00
1711	Eight Section Alarm	60.00
1712	Ten Section Alarm	65.00

House Call Annunciators.



List No. 1663
(Style D.)

These Annunciators are particularly adapted for Apartment Houses, Kitchens, Offices, etc. The cases are nicely finished in any wood desired.

We guarantee these instruments to be absolutely reliable, and they will require as little attention to keep in order as the most expensive Annunciator made.

Furnished with numbered or special indications.

List No.		Style D.
1674	2 Drop, each	$3.70
1662	3 " "	4.00
1663	4 " "	4.30
1664	5 " "	4.70
1665	6 " "	5.00
1666	7 " "	5.50
1667	8 " "	5.80
1668	10 " "	6.50

Each additional Indication, 60 cents per drop.

House Call Annunciators.

List No. 1670

Made in four sizes only, 2, 4, 6 and 8 Drops.

These small, neat, compact and reliable Annunciators have drops the same as used in our regular house call types. An iron monitor bell is mounted on top of case.

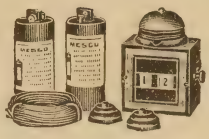
This annunciator is preferred where space is limited, as it is considerably smaller than any other gravity drop annunciator manufactured.

Every part is carefully constructed and every annunciator guaranteed.

Made in Ash and Oak for regular stock. All other finishes made to order.

Tags are numbered or lettered as desired.

List No.		Price.
1669	2 Drop Annunciator, each,	$3.20
1670	4 " " "	4.20
1671	6 " " "	5.50
1672	8 " " "	6.60



Annunciator Outfits.

Put up in a neat and attractive package with full directions for installing. Can be used in many places; in stores for calling clerks or porters, in factories for calling the foremen to the office.

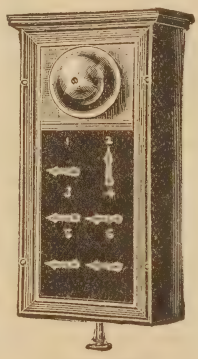
Two-Drop Outfit.

Consists of one No. **1669** Annunciator, two cells Mesco Dry Battery, 150 feet No. 18 Annunciator wire, half pound double pointed tacks and two wood push buttons.

Four-Drop Outfit.

One No. **1670** Annunciator, two cells Mesco Dry Battery, 300 feet No. 18 Annunciator wire, one half pound double pointed tacks and four wood push buttons.

List No. **1756** Two-Drop Outfit, complete.....Price, $5.00
" **1757** Four-Drop " " ..... " 6 00



List No. **1691**

Needle Drop Annunciator.

House Type.

Simple. Positive. Neat.

These annunciators contain several features lacking in other makes such as a resetting device that does not "jump" all the needles every time the reset is operated. Needles will not shake down under the most trying conditions. Make a full quarter turn when current is applied. The case is finely finished and suitable for the most artistic surroundings of Home, Office, Cafe, etc. The mechanism is particularly adapted for Elevators, Railway Cars, Steamships and any other place where unusual vibration prevails.

Finished in Oak only for stock. Special finishes to order.

List No.		Price.
1688	3-Point	$4.82
1689	4 "	5.44
1690	5 "	6.38
List No. **1691**	6-Point	6.90
" **1692**	8 "	8.62
" **1693**	10 "	10 44
" **1694**	12 "	11.80
" **1695**	16 "	14.46
" **1696**	20 "	18 18
	21 to 40 Points, per Indication	1.10

List No. **2009**

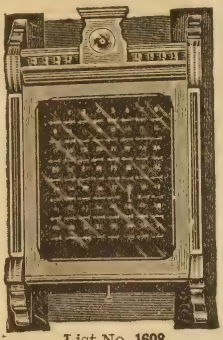
Needle Drop Annunciator.

Elevator Type.

Working parts the same as No. **1691** described above.

List No.		Price.
2008	3-Point	$6.38
2009	4 "	7 24
2010	5 "	8.32
2011	6 "	9.62
2012	7 "	10 70
2013	8 "	11.78
2014	9 "	13.12
2015	10 "	13.72

Above 10-point use House Types.



List No. 1698

Hotel Type.

This Annunciator has an elegantly finished, heavy ornamental case. The drops are our improved type, as described on preceding page. The resetting device is strong, durable and easily operated. Every detail of construction is of the highest standard and every Annunciator guaranteed to work satisfactorily.

List No. 1698

Without Guest Call or Fire Alarm.

Drops.	Per Drop.
41 to 70	$1.56
70 to 120	1.44
121 and up	1.32

List No. 1699 With Guest Call.

Drops.	Per Drop.
41 to 70	$2.34
70 to 120	2.29
121 and up	2.22

Hotel Annunciator.

Gravity Drop.

This high grade Gravity Drop Annunciator is appropriate for any hotel office as the heavy ornamental woodwork and piano finish makes it equal to the best furnishings of a hotel.

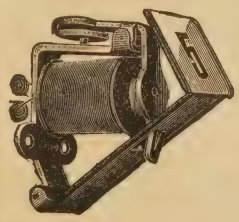
Every part is carefully constructed, tested and guaranteed to work satisfactorily.

Woodwork made in Oak, Walnut, Mahogany or stained Cherry.

Tags numbered or lettered as desired.

List No.			Price.
1676	10	Drop, Plain	$14.00
1677	12	" "	15.50
1678	15	" "	16.50
1679	20	" "	20.00
2025	25	" "	22.00
2026	30	" "	30.00
2027	35	" "	32.00
2028	40	" "	34.00
2029	45	" "	36.00
List No. 2030	50	Drop, Plain	42 00
" 2031	60	" "	47.00
" 1681	10	" with Ret'n Call	20.00
" 1682	12	" " "	22.00
" 1683	15	" " "	24.00
" 1684	20	" " "	30.00
" 2040	25	" " "	39.00
" 2041	30	" " "	44 00
" 2042	35	" " "	50.00
" 2043	40	" " "	55.00
" 2044	45	" " "	60.00
" 2045	50	" " "	66.00
" 2046	60	" " "	80.00

Larger sizes on application.

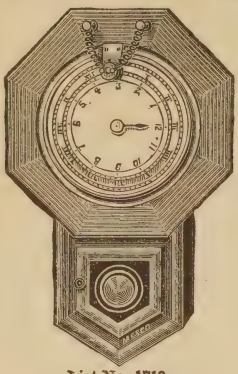


GRAVITY ANNUNCIATOR DROPS.

Our Annunciator Drops are made from the best Norway Iron, and nickel-plated. The tag holder is made of brass.

It operates on one cell of battery and does not drop until the current is applied, making it a very desirable apparatus for ships, railroad cars, elevators, etc.

List No.		Price.
1715	As illustrated, each	$0.40



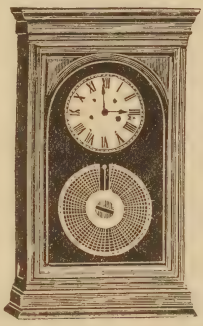
List No. 1718.

DETECTIVE ELECTRIC CLOCK.

Cheapest One-Station Watchman's Clock Made.

For indicating, the time circuit is closed at a certain station. An excellent device for recording the time that your watchman is around, or for any other purpose where a time record is desirable. Requires two batteries equal in strength to the Mesco Dry. It has an 8-day movement, and the clock, for a timepiece, is worth all we ask for the complete apparatus. 50 extra dials with each clock.

List No.		Price.
1718	Complete	$12.00
1719	Extra Dials, per 100	1.50



Watchman's Time Detectors.

For Battery or Magneto System.

It records the exact time of a watchman's visit to each station on his route, compelling him to make regular inspections of every part of the premises.

Handsomely finished oak case, having good eight day movement with 10-inch dial.

An important feature of this Time Detector is, that the circuit is automatically broken in the instrument as soon as the record is made, so that if key is kept in contact at the station the paper dial will not be torn.

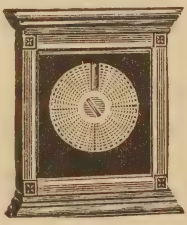
List No.			Price.
1728	4	Stations	$108.00
1765	5	"	114 00
1729	6	"	120.00
1766	7	"	126.00
1730	8	"	132 00
1767	9	"	138.00
1731	10	"	144.00

Extra Stations, per station, $7.20

Where more than twenty stations are required two recording dials will be used.

A years supply of dials included in these prices.

Extra paper dials up to 10 stations per M	Price,	$18.00
15 Stations, per M	"	21 60
20 Stations, per M	"	27.00

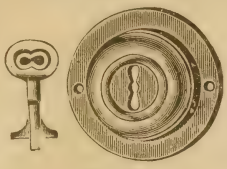


Same as No. 1728 without time piece.

List No.	1720	4	Stations	"	78.00
"	1768	5	"	"	84 00
"	1721	6	"	"	90 00
"	1769	7	"	"	96.00
"	1722	8	"	"	102.00
"	1784	9	"	"	108.00
"	1723	10	"	"	114.00
Extra Stations				"	6.00

A years supply of dials included in these prices.

When ordering, specify whether for Battery or Magneto Circuit. Battery circuit will operate satisfactorily on lines up to 300 feet in length. For longer circuit use Magneto Generators.



No 1716

Watchman's Key Switch.

For Watchman's Time Detectors.

By using this Switch, no one but proper party with key can record visit on the main instrument.

List No.		Price.
1716	Cast Bronze, complete (including key)	$0.70

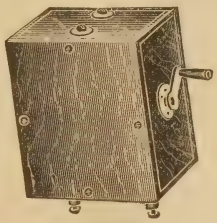
Special finishes to order.

Watchman's Flush Key Switch.

For Iron Outlet Boxes.

Made of cast bronze and sets flush with wall. Can be furnished to match hardware. Size 4 inches in diameter.

List No.		Price.
1717	Switch complete with key	$2.50



No 1736

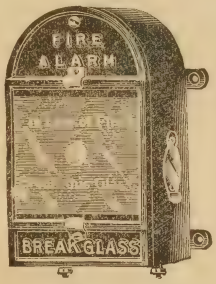
Magneto Generator.

For Watchman's Time Detector.

This Magneto is intended for use with detecters listed on page 42 in place of batteries.

The handle is detachable and can be carried by watchman the same as a key.

List No.		Price.
1736	Magneto, complete, Oak finish	$6.00



Signal Fire Alarm Box.

Neat Japanned Iron box, size 6 x 4½ x 3 inches, fitted with slow motion mechanism, which, when released, will repeat the number five times Can be arranged so as to release the mechanism either by *breaking of glass* or by *pulling* down lever at the side of box.

Each box is arranged to give different numbers to locate the point from which alarm is sent.

Is specially constructed for use with any electro mechanical gong.

This fire alarm box is also used for outdoor alarms when encased in our special weather and dust-proof iron case with spring lock. Size of case, 8½ x 7½ x 4 inches.

List No.		Price.
1744	Fire Alarm Box as illustrated	each, $12.00
1745	" " " with Weatherproof Case	" 24 00

FIRE ALARM BOX.

This device is used in hotels and factories to give notice in case of fire. All that is necessary is to break the glass with the hammer.

The contact spring, which is held in place by the glass, is then released, closing the circuit and immediately giving the signal at some central point.

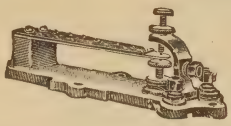
List No.		Price.
1652	Each	$0.90

Automatic Fire Alarm Thermostat.

This Thermostat is adjustable to any degree of heat, but when not otherwise ordered, is set at 125° Fahrenheit.

List No.		Price.
1653	Automatic Thermostat	$0.60

ADJUSTABLE THERMOSTAT.



Can be set for any desired degree of temperature, and will make electrical contact on the rise or fall of temperature. Call bells, or other electrical alarms, can be connected in the circuit at any desired distance from the thermostat.

Often used for Fire Alarm, in hot houses, incubators, etc.

List No.		Price.
1673	Each	$1.60

Postal Dist. Call Box.

Furnished without name on front of box if desired.

List No.		Price.
1742	1 Call Open Circuit	each, $4.00
1743	1 " Closed "	" 4.00

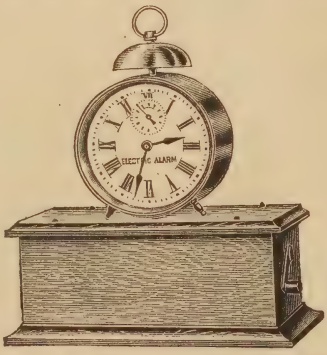
List No. 1748.

ELECTRIC ALARM CLOCK.

The "Manhattan" Clock is set in the usual manner to ring at a certain hour, and the movement of the clock throws into circuit a vibrating bell which will ring for two hours, unless switched off.

The clock can be placed on a shelf or table, and the bell and switch arranged near the bed. Any vibrating bell described in this Catalogue can be used with clock.

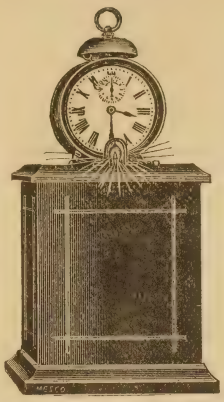
List No.		Price.
1748	Clock as shown, post connections, each	$2.50
1749	Clock with connections through legs of clock, each	2.60



EARLY RISER'S OUTFIT.

The clock is securely fastened to the case so that the outfit can be carried by the ring on top of clock. All that is necessary to ring the electric bell at a specified time is to place the switch in circuit and the bell will ring as soon as the hour indicated by alarm hand is reached.

List No.		Price.
1758	Complete, each	$4.00



ELECTRIC ALARM CLOCK OUTFIT.

THE MATCHLESS TIME-FINDER. ALARM RINGS UNTIL CIRCUIT IS OPENED.

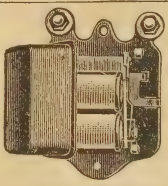
This is a Combination Alarm Clock Outfit and Flash Lamp. By pressing the button on top of case the electric lamp will light. The lamp is of two candle power and not only illuminates the dial of clock, but will light the entire room. The lamp can be lighted from bedside by attaching a flexible cord with pear-shape push to binding posts on the back of case,

List No.		Price.
1752	As illustrated, each	$5.50
1753	With pear-shape push and 15 feet flexible cord	6.00

NONPAREIL BUZZER.

The general construction of the Nonpareil Buzzer is the same as the Nonpareil Bell described on page 49 with the gong extension, gong and striking rod eliminated.

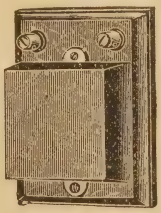
List No.		Price.
1848	Each, Special	$0.58



UTILITY IRON BOX BUZZER.

This buzzer is the same as the Utility Bell illustrated and described on page 49 without the gong, the extension for holding the gong and the striking rod and ball.

List No.		Price.
1833	Special	$0.54



WOOD BASE BUZZER.

Mounted on finely finished hardwood base. Polished nickel-plated cover and improved binding posts.

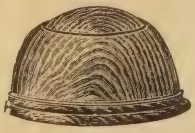
List No.		Price.
1919	Each	$0.80

WATCH CASE BUZZER.

Size, ⅞ x 1¾ inches.

Strong, well made and presents a very neat appearance. Cap is heavily nickel-plated.

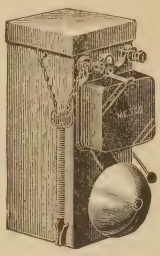
List No. 1936 Each.....Price, $0.50



BEE HIVE BUZZER.

Illustration shows the Bee Hive Buzzer one-third size. Comes in highly finished Oak or Ash.

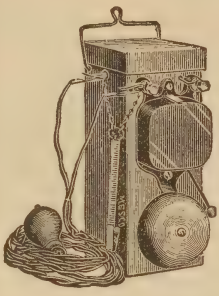
List No.		Price.
1930	Each	$0.80



ELECTRIC ALARM ATTACHMENT.

The operation of this electric attachment is very simple. Wind up the alarm key to clock three or four half turns. Place the spring clamp on the key. When the mechanical alarm goes off, the two chain electrodes will twist and close the electric circuit. The bell rings until clamp is removed. Can be attached to any ordinary mechanical alarm clock. Weight about three pounds.

List No.		Price.
1759	Without Clock	$1.50



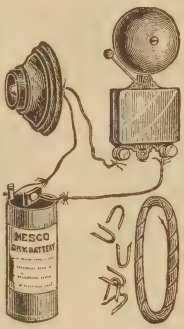
COMBINATION PORTABLE CALL BELL OUTFIT

AND ELECTRIC ALARM CLOCK ATTACHMENT.

As an Alarm Attachment its operation is the same as No. **1759**.

As a Call Bell.—We supply six yards of double flexible conducting cord, to one end of which is attached a pear-shape push button, to hang at the bedside or any convenient place. The opposite ends are provided with two spring clasps, the same can be connected or detached in an instant. Can be used for many purposes, in the office, at the bedside, for the dining room, connecting adjoining rooms, etc., etc.

List No. **1760**. Complete, each.... Price, $2 50



ELECTRIC CALL BELL OUTFIT.

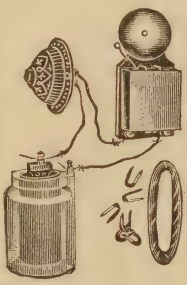
Consists of:

One Iron Box Bell, 2½ inch Gong.
One Cell Mesco Dry Battery.
One Wood Push Button.
Fifty Feet Insulated Wire.

Sufficient staples and printed instructions which will aid any person to put same in successful operation.

Packed in strong straw-board box. Weighs 5 lbs. A first-class outfit.

List No.		Price.
1762	Complete, each	$1.20



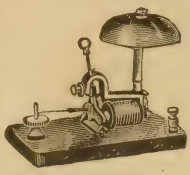
ELECTRIC CALL BELL OUTFIT.

Packed in a Neat, Strong Wooden Box.

Outfit Consists of:

1 2½-inch Wood Box, Bell No **1890**.
1 Leclanche Battery.
1 Bronze Push Button.
75 Feet Annunciator Wire.
Staples, etc.
One Box and packing same.

List No.		Price.
1764	Call Bell Outfit, complete	$1 80

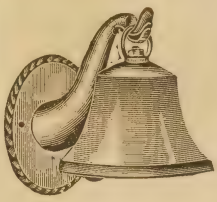


DISTRICT SIGNAL BELL.

This is our District Signal Bell, combining new and special improvements. Thoroughly constructed, neatly finished, mounted on a highly polished mahogany base. The best District Signal Bell made.

List No.		Price.
1912	3-inch	$3.50

The Elite Bracket Bell.



The "Elite" is the most perfect bracket bell in appearance and efficiency ever manufactured. The gong is made of best bell metal with all of the outside surface and the lower half of the inside polished and plated. The vibrating mechanism is simple and reliable and will operate satisfactorily with two to five cells of battery. Circuits are arranged through the bracket which avoids the necessity of disconnecting wires in the bell to remove it from the bracket. The size of gong at the opening is 4½ inches. Very neat and symmetrical.

List No.		Price.
1904	Nickel-Plated	each, $4.50

All other finishes 50 cents Extra Net.

REGULAR CAST GONGS.

List No.	Ins.		Price.
1785	2½,	nickel-plated, each,	$0.24
1786	3,	" "	.40
1787	3½,	" "	.52
1788	4,	nickel-plated "	.62
1789	5,	" "	1.08
1790	6,	" "	1.72
1791	7,	" "	2.36
1792	8,	" "	3 40
1793	9,	" "	5.16
1794	10,	" "	5.64
1795	12,	" "	7 88
1797	14,	" "	15 40
1798	15,	" "	17.60
1799	16,	" "	21.20
1800	18,	" "	30 40

STAMPED GONGS.

Made from Steel, Nickel-plated on Copper.

List No.	Ins.		Price.
1805	2½,	nickel-plated, each,	$0.16
1806	3,	" "	.20
1807	4,	nickel-plated "	.40
1808	5,	" "	.80
1809	6,	" "	1.44

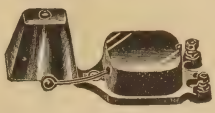
Fancy Nickel-plated Gongs.

Price, Gongs Only.

List No.		Inches.		Price
1770	Rectangular,	1⅜x1⅞,	nickel-plated, each,	$0 50
1771	"	1¾x2½,	" "	.72
1772	Mikado,	2½,	" "	50
1773	Sleigh,	1 9/16,	" "	.50
1774	Tea,	2⅜,	" "	.50
1775	"	3⅛,	" "	.96
1776	Swiss,	2½,	" "	.50
1777	"	2¾,	" "	.66
1778	Dome,	2⅜,	" "	.50
1779	"	2⅝,	" "	.60
1780	Garland,	1⅞,	" "	.50
1781	Wood,	2½,	" "	.50

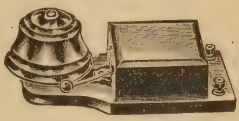
Illustrations of fancy gongs on page 48.

Bells With Fancy Nickel-Plated Gongs.



No. 1815

Rectangular—1½x2 inches.

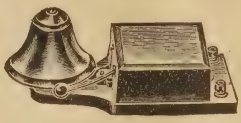


No. 1819

Mikado—2½ inches diameter.

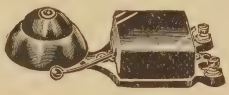
No. 1816

Sleigh—1½ inches diameter.



No. 1821

Tea—2⅜ inches diameter.

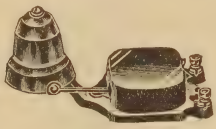


No 1817

Swiss—2½ inches diameter.

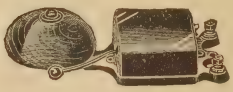
No. 1823

Dome—3 inches diameter.



No. 1818

Garland—2 inches diameter.



No. 1824

Wood Gong—2½ inches diameter.

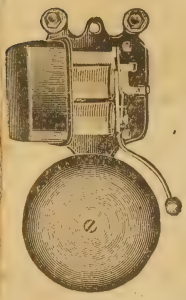
List No.						Price.
1815	Rectangular,	1½x2	inches,	Iron	Box	$0.90
1814	"	1½x2	"	Wood	"	1.12
1816	Sleigh,	1½	"	Iron	"	.90
1826	"	1½	"	Wood	"	1.12
1817	Swiss,	2½	"	Iron	"	.90
1827	"	2½	"	Wood	"	1.12
1818	Garland,	2	"	Iron	"	.90
1829	"	2	"	Wood	"	1.12
1819	Mikado,	2½	"	Wood	"	1.12
1820	"	2½	"	Iron	"	.90
1821	Tea,	2⅜	"	Wood	"	1.12
1822	"	2⅜	"	Iron	"	.90
1823	Dome,	2⅝	"	Iron	"	.90
1828	"	2⅝	"	Wood	"	1.12
1824	Wood,	2½	"	Iron	"	.90
1825	"	2½	"	Wood	"	1.12

For price of unmounted Gongs, see page 47.

Special prices for quantities.

NONPAREIL BELL.

With Cap Removed to Show Working Parts.



In the "Nonpareil" we offer the best moderate priced bell ever produced.

It will ring satisfactorily with one cell of battery, and will not stick or buzz with six cells connected.

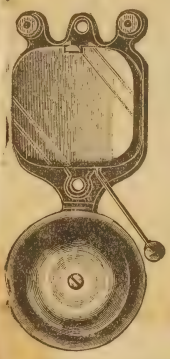
The plate for holding the armature and magnets is stamped from one piece of metal and securely fastened to the frame. The vibrating contact post is attached to end of magnet thus confining all working parts to the stamped plate, insuring accurate alignment and permanency of adjustment to all operating parts. Our construction also obviates the possibility of leaky or loose contacts as there are no screws or pivots in the path of the electrical current. Binding posts are the latest non-turning type.

The cover is of light pressed steel and neatly japanned. The clamps for holding the cover to frame are ingeniously arranged on the sides by extensions from the plate which holds the armature and magnets. A slight pressure of the fingers on each side of the cover will disengage it from the clamps.

A thoroughly first-class and reliable bell at a reasonable price.

List No.		Price
1845	Nonpareil Bell, 2½-inch Gong ..... each,	$0.56
1846	" " 3 " " ..... "	.58
1847	" " 4 " " ..... "	.74

UTILITY IRON BOX BELL.



The "Utility" is a high-grade double adjustment Iron Box Bell with binding posts and all parts held by screws, to prevent them from working loose.

Armature is pivoted and tension of same adjustable for one or more batteries.

Only the softest cast iron is used, reducing the danger of polarizing to a minimum.

Copper Caps cover end of magnet core, to avoid any possibility of armature sticking.

Higly polished nickel-plated gongs are used.

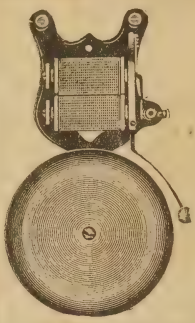
List No.		Price.
1830	Utility Bell, 2½-in. Gong, each,	$0.60
1831	" " 3 " " "	.62
1832	" " 4 " " "	.80
1886	" " 5 " " "	1.70
1887	" " 6 " " "	2.00

CRESCENDO WOOD BOX BELL.

Has our patented non-turning contact and binding posts. Trimmings are all nickel plated. A back spring on the armature provides a very easy method of adjustment for operating with one to five cells of battery. The cases are well constructed and neatly finished in Ash, Oak, Walnut or Cherry. Gongs are nickel-plated.

List No.		Price.
1841	Crescendo Bell, 2½-in. Gong, each,	$0.82
1842	" " 3 " " "	.84
1843	" " 4 " " "	1.04
1878	" " 5 " " "	1.40
1879	" " 6 " " "	1.60

Special prices for quantities.



IRON FRAME SKELETON BELL.

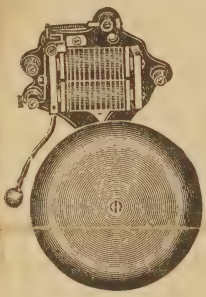
This is a high grade, well constructed, spring armature skeleton bell, and can be operated on from two to six cells of battery. The same careful selection of materials and expert workmanship as used with our higher priced apparatus is maintained in the construction and assembling of this bell.

List No.		Price.
1985	5-in. nickel-plated Gong, ea.,	$2 30
1986	6-in " " "	2.60
1987	7-in. " " "	3.60
1988	8-in. " " "	4.00

PIVOTED ARMATURE SKELETON BELLS.

This bell meets the demand for a well made and reliable pivoted armature skeleton bell which can be sold at a lower price than any similarly constructed bell. It is neat and symetrical in appearance and guaranteed to give entire satisfaction in any location where a vibrating battery bell will work. All trimmings are heavily nickel-plated. The contact and binding posts are non-turnable. Gong is of pressed steel heavily nickel-plated.

A thoroughly good bell at a very reasonable price.

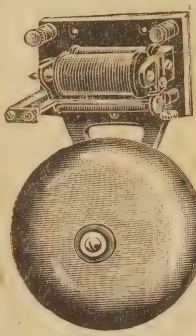


List No.		Price Each.
7910	2½-inch nickel-plated Gong,	$1 37
7911	3 " " "	1.40
7912	4 " " "	1 65
7913	5 " " "	2.60
7914	6 " " "	2.80
7916	8 " " "	4 60
7917	10 " " "	7.00
7918	12 " " "	8 00

SINGLE STROKE BELLS.

The hammer rod has a short leverage but a long sweep, thus enabling it to give rapid and powerful blows; a stiff, flat spring causes the striker to instantly leave the gong after making the blow, making the signals perfectly distinct no matter how rapidly given. Regular resistance 6 Ohms, can be wound for direct Incandescent Circuit at special prices according to resistance required.

The length of stroke and tension are adjustable.



List No.		Single Stroke.	Price.
2145	3 inch Gong	.....	$6.00
2146	4 " "	.....	6.60
2147	5 " "	.....	7.80
2148	6 " "	.....	9.00
2149	8 " "	.....	14.40
2150	10 " "	.....	16.20
2151	12 " "	.....	19.20
2152	14 " "	.....	37.20
2153	16 " "	.....	45.60
2154	18 " "	.....	60.00

IMPROVED MONITOR BELL.

A neat, compact, reliable, round bell with double magnets, non-turning contact spring and binding posts. The gong is nickel-plated, and secured in its place so it cannot turn, giving always a clear ring instead of a rattle caused by a loose gong.

List No. **1900.** Price, each.....$0.80

IRON CLAD WATERPROOF BELL.

Constructed to protect the operating mechanism and magnets from dampness, dust and other outside influences. The case is very substantial and heavily Japanned.

The contact points are of hardened carbon, permitting the use of a current ranging from 4 to 150 volts with magnets wound to proper resistance. The entire dimensions of the bell being confined within the diameter of the gong, the space occupied is minimized and the position of the gong is an extra protection to the case and the binding posts. For factories, mines, railroad stations, cold storage warehouses or any place where a reliable signal is necessary.

The vibrations are strong, rapid and regular.

We unhesitatingly recommend this as the most satisfactory for any location where a vibrating bell can be used.

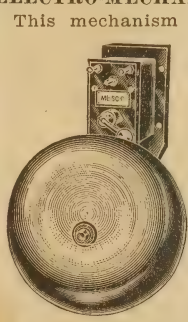
Every Bell Guaranteed.

List No.		Price.
1990	Ironclad bell, 5 ohms, 6-inch Gong	$5.00
1991	" " 5 " 7 " "	6.00
1992	" " 5 " 8 " "	6.50
1993	" " 5 " 10 " "	14.00
1994	" " 5 " 12 " "	17.00
1995	" " 5 " 14 " "	26.00

Higher resistance magnets are wound special to order.

For 5 to 40 ohms, add 25 cents each, net.
" 45 to 80 " " 35 " "
" 85 to 120 " " 45 " "

ELECTRO-MECHANICAL GONG FOR EXPOSED PLACES.



This mechanism is entirely encased in iron thoroughly protecting it from the weather. The spring is very powerful and gives 375 blows to each winding.

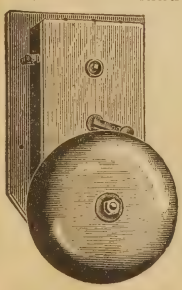
This gong can be arranged to operate as a single stroke or constant ringing gong or to ring continuously until run down after circuit is closed or broken, on open or closed circuit. Unless otherwise ordered, we send open circuit single stroke bells.

List No.					Price.
2161	6-inch,	4	Ohms	Resistance	$33.60
2162	8 "	4	"	"	36.00
2164	10 "	4	"	"	37.20
1165	12 "	4	"	"	42.00
2166	14 "	4	"	"	48.30
2167	15 "	4	"	"	51.00
2168	16 "	4	"	"	54.00
2169	18 "	4	"	"	66.00

Resistance up to 10 Ohms no additional charge. For higher resistance, special price.

ELECTRO-MECHANICAL GONG FOR USE INDOORS.

The case is made of handsomely polished hard wood.



The spring is very powerful and gives 375 blows to each winding.

This gong can be arranged to operate a single stroke or a constant ringing gong or to ring continuously until run down after circuit is closed or broken. Unless otherwise ordered, we send open circuit single stroke bells.

List No.					Price.
2171	6-inch	4	Ohms	Resistance	$40.80
2172	8 "	4	"	"	42.00
2173	10 "	4	"	"	43.20
2174	12 "	4	"	"	48.00
2175	14 "	4	"	"	52.20
2176	15 "	4	"	"	55.20
2177	16 "	4	"	"	60.00
2178	18 "	4	"	"	72.00

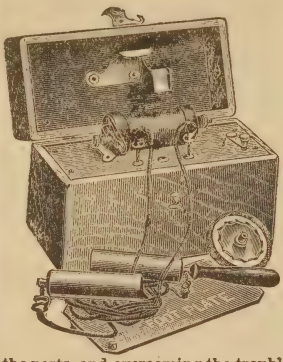
Resistance up to 10 Ohms no additional charge. For higher resistance, special price.

The above Gongs can be furnished with an attachment to close circuit on a local battery and ring an auxiliary bell to attract attention when gong needs winding.

ANTI-DOC MEDICAL APPARATUS.

No Fluids to Spill. Polished Hardwood Oak Case. Metal Trimmings Nickel-plated.

Outside Measurements 7⅝x5¼x3½ Inches.



The Anti-Doc is without question the most Compact, Reliable, Durable and Neatest Medical Apparatus of its kind ever manufactured.

Our many years experience in the manufacture of Medical Apparatus has acquainted us with every phase of objection brought against the various styles hitherto in use, and led us to apply considerable thought to the construction of a form of Battery that would, as far as possible, avoid these objections and still constitute a moderate priced apparatus. The armature and vibrating parts are an entirely new feature and so arranged that perfect adjustment is always maintained. The frame for holding the adjustable Contact Screw and Armature is made from one piece of metal and is securely fastened to the base holding the coil and to the end of the induction coil, thus insuring permanency of position for all the parts, and overcoming the trouble caused by loosening of contact parts from the base which has been responsible for most of the complaints on the apparatus using a separate post for holding the contact screw. An ingeniously arranged recording scale is furnished with each apparatus to show strength of current being used.

List No.		Price.
2215	Apparatus, with Battery and Electrodes, complete	$4.00

DOUBLE CELL MEDICAL APPARATUS.

This apparatus is operated by two cells of Mesco Dry Battery. Either one cell or both can be connected as desired at the two point switch. We include two sponge electrodes, two ebonized handles, two hand-electrodes, two silk covered cords, one foot plate and one hair brush.

The unusually complete and excellent set of Electrodes furnished with this instrument make it very convenient in a great variety of applications for the patient, with or without assistance; for instance, in the use of two Sponge Electrodes, one in each hand, or having one of them clasped against any part of the body by means of an elastic, while the other, attached to its insulating handle, can be applied wherever desired; or, when foot plate is used and the Sponge Electrode applied from the other pole of the battery, and a great many other combinations which would naturally suggest themselves from the fact of having the electrodes with which to make them.

List No.		Price
2225	Complete, with Electrodes	$7.00

HOME MEDICAL APPARATUS.

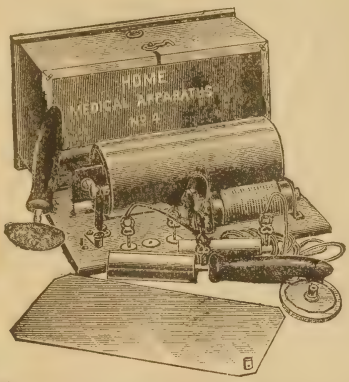


Illustration shows the Home Medical Apparatus No. 4. Case open at lower compartment showing the entire apparatus, with Battery, Coil and Electrodes complete.

Its currents are smooth and even, and their strength can be graded from the mildest perceptible to a power that few can endure.

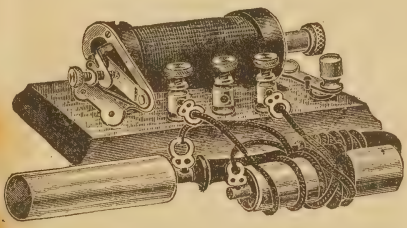
The complete battery is contained in an elegant, highly polished oak or mahogany case, having a strong, handy, nickel-plated handle. The dimensions of the case are 9x5¼ inches, and its weight, complete with cell and electrodes is about 5½ pounds.

Physicians prescribing applications of the Faradic current for patients personally, at home, or by nurse, under specific directions, will find much satisfaction in using this form of apparatus, inasmuch, as from its simplicity and entire absence of acids or liquids, it is particularly suited for the use of those who are entirely unfamiliar with the care and precautions necessary for handling the ordinary acid batteries.

An Electropathic guide with each apparatis giving full directions for using Electrodes, care of battery, etc.

List No.		Price.
2204	No. 4 Apparatus, Battery and Electrodes, complete.....	$7.00

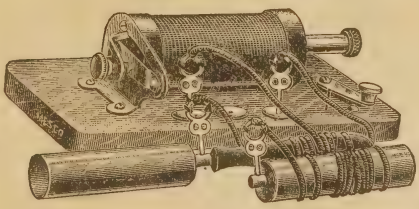
MEDICAL INDUCTION COIL.



A finely finished and powerful instrument. The coil is mounted on a polished oak base and provided with a switch for connecting battery. It is arranged to give both primary and secondary currents.

List No.		Price.
2234	Complete with Electrodes ...	$2.50

MEDICAL INDUCTION COIL.



A first-class medical Coil of same construction as is used on apparatus No. 2215. Mounted on Oak or Mahogany Base, has two Metal Electrodes, 2 Silk Covered Conducting Cords, 1 Wood Handle.

List No. **2235** Complete with Electrodes.....Price, $2.00

THE UNIQUE MEDICAL APPARATUS.

This is a complete and perfect Medical apparatus, small enough to fit in the pocket, and powerful enough to suit most users. The case is made of Oak with cabinet finish and the coil and vibrator are the same as used in our No. **2215** outfit.

The dry battery used is our No. **2380** and it is contained in a nickel-plated tube. This battery can be taken out when exhausted and a new one put in without trouble or tools.

All metal parts are nickel-plated.

This outfit is without question the best low-priced Medical Apparatus on the market, and will commend itself to any one requiring a medical battery for occasional use at home or for traveling.

Size 1¾x2¾x5 inches

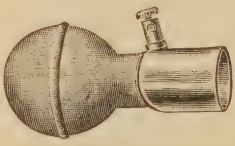
List No.		Price.
2202	Medical Apparatus complete	$3.50
2380	Battery only	.30

MASSAGE ROLLER ELECTRODE.

Has metal roller and frame, highly polished and nickel-plated, with ebonized wood handle. The ingenious method of conducting the current insures the best possible results. Can be attached to any medical apparatus.

List No.		Price.
2210	Roller electrode as illustrated	$0.70

MASSAGE CUP ELECTRODE.



The Vacuum Cup Electrode is one of the latest and best instruments for applying electricity to the face.

When the rubber bulb is pressed, the rim of the cup makes a perfect contact, producing a very pleasant sensation quite different from the stinging sensation produced by the usual electrodes used for facial massage.

List No.		Price.
2312	Electrode complete	$2.00

WRIST ELECTRODE FOR MASSAGE TREATMENT.

This Electrode is very popular for massage treatment as the sponge makes a perfect conductor of the electric current to the wrist of the operator which gives the patient the best possible results of a combination massage and electric treatment. Metal parts are made of the best material and heavily nickel-plated.

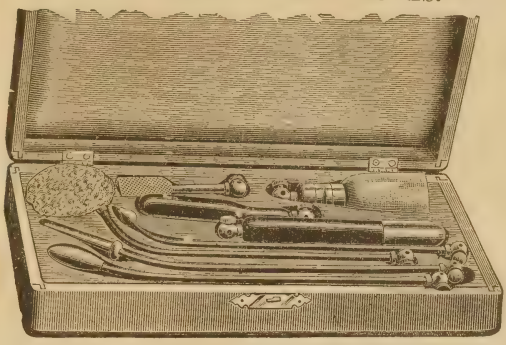
List No.		Price.
2211	Wrist Electrode with five feet Conducting Cord	$1.00

MEDICAL BATTERY CORDS.

The cords are three feet long, one red and one green, silk braid over wires, with plated tips. Strong and serviceable.

List No.		Price.
2358	Cords 3 ft. long, per pair	$0.50
2362	" 4 " " " "	.60

CASE OF ELECTRODES.



Of Approved Form, And Finely Finished.

List No. **2340** Above Electrodes, complete with case, Price, $14.40

List No.		Price
2341	1 Insulated Handle..	$0.90
2342	1 Sponge Electrode .	.80
2343	1 Eye "	1.80
2344	1 Ear "	1.80
2345	1 Throat Electrode....	$1 80
2346	1 Tongue " ..	1.80
2347	1 Womb " ..	1.80
2348	Vagina and Rectum Electrode.....	2.00

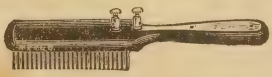
CONDUCTING CORD TIPS.—NICKEL-PLATED.

For terminals on flexible Conducting Cords.

List No. **2359** Price, each $0.04

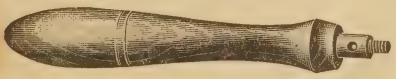
List No. **2360** Price, each, $0.05

ELECTRODES FOR MEDICAL BATTERIES.



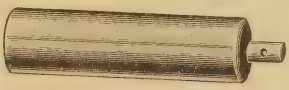
This Electrode Brush, which is used in the same way as an ordinary hair brush, furnishes suitable means by which electricity may be applied to the roots of the hair.

List No. **2355** Price, each $1.40

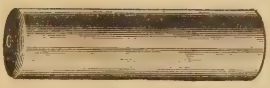


No. **2365**

No. **2373**



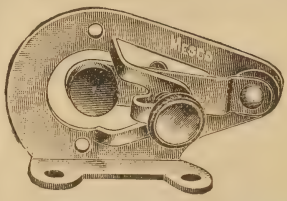
No. **2370**



No. **2371**

No. **2371** is sufficiently small to go into No. **2370**. No. **2370** is intended for use with interchangeable Handle No. **2365**

List No.		Price
2365	Electrode Handle.....	$0.20
2370	Nickel-plated Electrode	.20
2371	" "	.20
2373	Sponge Electrode.....	.30



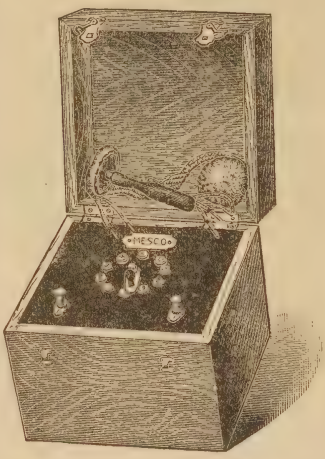
CURRENT INTERRUPTER.

Vibrator and contact screw on same base. Can be attached to any medium size induction coil.

Same as used on Medical Apparatus No. **2215**

List No.		Price
2375	As illustrated.....	$0.50

GALVANIC BATTERY AND EPILATION OUTFIT.



This apparatus is intended for use in the removal of superfluous hair and other facial blemishes, treating strictures, etc., and for treatment about the head and other sensitive parts of the body.

Highly polished Oak box eight inches square. Switch, contacts and binding posts, are mounted on polished slate base.

Box contains nine cells of dry battery, any number of which can be thrown into the circuit by means of the switch.

New batteries can be easily inserted by any one.

Outfit contains Two Sponge Electrodes. One Electrode handle. One Needle holder. Six Steel Needles. One Epilation Forceps. One pair Silk Cords.

List No. **2231** Outfit complete.....Price. $16.00

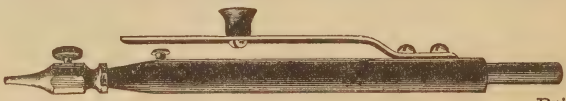
EPILATION APPARATUS.

NEEDLE HOLDER.

Hard rubber with nickel-plated mounting.

List No.		Price.
2328	Needle holder.....	$1.50

NEEDLE HOLDER WITH CURRENT BREAKER.



List No.		Price.
2329	Needle holder.....	$1.80

SWISS NEEDLES.

List No.		Price.
2330	Needles per dozen.....	$1.25

EPILATION FORCEPS OR TWEEZERS.

List No.		Price.
2331	Forceps	$0.70

1.5 Volts

Over 20 Amperes

List No. 2445

FOR IGNITION.

Automobile, Stationary and Marine.

Our Red Seal is a dry battery of the most pronounced merit and quality. It is the very best battery built for all Ignition Work and because of its excellence in this respect, we offer it with our unqualified endorsement to owners and users of Automobiles, Motor Boats and Gas Engines as being the most satisfactory dry cell obtainable.

While particularly adapted for Ignition Work the Red Seal is also a most excellent cell for all open circuit work.

List No.		Price.
2445	Size A, 2½ in. x 6 in., each	$0.50
2446	" B, 3 in. x 7 in., "	.80
2447	" C, 3½ in. x 8 in., "	1.00

The Manhattan Dry Battery.

The Manhattan is an unexcelled dry battery for all open circuit and intermittent work.

Has a remarkably long life, high efficiency and is quick to recuperate.

The amperage and voltage are sufficiently high to take care of the service required of a dry battery for open circuit work.

Adaptable to all purposes where a dry cell can be used.

List No.		Price.
2398	Size, 2½ x 6¾ in.	0.30

MESCO DRY BATTERY.

The Mesco is acknowledged to be the standard dry battery of the world. We manufactured and sold over 2,000,000 during the last year, and over 50 per cent. of the orders were from customers who have handled them continuously during the past twenty years.

List No. 2385

For Call Bells, Annunciators, Burglar Alarms, Telephones, Medical Apparatus, the Laboratory, and all Open Circuit use.

No. **2385** is the standard size of Mesco Dry Battery.

List No.	Size.	Price. each
	Round.	
2380	1¼x3	$0.25
2381	1½x4	.30
2382	1¾x4	.30
2383	2 x4½	.30
2384	2½x6	.30
2385	2½x6¾	.30
2386	3⅜x6¾	.60
	Rectangular.	
2387	1 x1⅛x3¼	.30
2388	1⅜x1¾x4½	.35
2389	1¾x2¼x5½	.45
2390	2 x2⅝x6¾	.50
2391	2¼x2¾x7	.60

BATTERY DIRECTIONS.

"Electropoion" Fluid.—Mix one gallon sulphuric acid and three gallons of water; then in a separate vessel, dissolve six pounds bichromate of potash in two gallons of boiling water, mixing the whole thoroughly together. When cold, it is ready for use.

To Amalgamate Zinc.—Immerse the zincs in a solution of dilute sulphuric acid and then in a bath of mercury. A brush or cloth may be used to rub them, so as to reach all points of the surface.

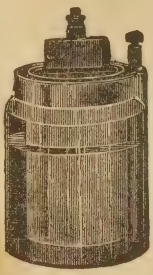
The Fuller Mercury-Bichromate Battery.—Amalgamate the zinc and its copper rod in the usual way.

Place the zinc in the porous cell and then pour into the latter a tablespoonful of mercury. Then fill the porous cell with water to within about two inches from the top.

Place the porous cell and the carbon in their positions in the jar, as shown in the cut of the battery. Then fill the jar to within two or two and one-half inches from the top with a mixture of three parts of electropoion fluid to two parts of water.

The zinc should be lifted out occasionally and the sulphate washed off. Keep a supply of mercury in the porous cell, so as to have the zinc always well amalgamated. If the battery does little work, it will last three or four months without being touched.

To renew, clean all deposits from carbon and zinc, and set up with fresh solution as above.



DISQUE LECLANCHE BATTERY.

We guarantee these Batteries equal, if not superior, in every respect to any Disque Leclanche Battery on the market.

List No.			Price.
2408	Complete	each	$0.50
2409	Porous Cup only	"	.30
2410	Glass Jar only	"	.14

LACLEDE CARBON BATTERY.

A popular form of Carbon Battery strong, long lived and efficient. This carbon battery is a standard type carried by our Chicago branch. The carbons are made at our own factories.

List No.		Price.
2404	Complete Cell, with Sal-Ammoniac	$0.50
2405	Cylinder only	.28
2406	Glass Jar only	.14

THE No. 2 IMPROVED SAMSON BATTERY.

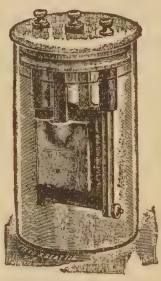
This Battery has a wide range of usefulness operating successfully every electrical device requiring intermittent battery service, including bells, annunciators, electric gas lighting, gas engine ignition, etc., etc., and has proven eminently satisfactory for closed circuit work in connection with telephone transmitters.

(No. 2.) Size, 4½x4½x8 inches. (New Style.)

List No.		Price. each.
2450	Complete Cell, new style....	$1.60
2451	Carbon Vase, "	1.10
2884	Cylindrical Zinc, "	.30
2453	Glass Jar, "	.24
2454	Rubber Cover "	.10
2455	Sal-Ammoniac Charge.....	.10
2456	Rubber Ring to suspend carbon.	.10
2457	Rubber Plugs (per set of three,)	.15

EDISON PRIMARY BATTERY.

List No. 2650. (Type Q.)



List No. 2645. (Type BB.)

List No. 2660. (Type V.)

List No. 2645. (Type BB.)
Capacity 100 Ampere Hours.
Porcelain Jar.
SIZE OVER ALL 4½x7¾ INCHES.

List No.		Price
2645	Battery Complete.....each,	$2.70
2646	1 Copper Oxide Plate, 1 Charge....	.44
2647	1 Zinc " 1 "	.51
2648	1 Can Caustic Soda, 1 "	.27
2649	1 Bottle Paraffine Oil, 1 "	.09

List No. 2650. (Type Q.)
Capacity 150 Ampere Hours.
Porcelain Jar.
SIZE OVER ALL 5¾x8¾ INCHES.

List No.		Price
2650	Battery Complete.....each,	$3.96
2651	1 Copper Oxide Plate, 1 Charge....	.56
2652	2 Zinc " 1 "	.51
2653	1 Can Caustic Soda, 1 "	.31
2654	1 Bottle Paraffine Oil, 1 "	.11

List No. 2655. (Type RR.)
Capacity 300 Ampere Hours.
Porcelain Jar.
SIZE OVER ALL 7¼x10½ INCHES.

List No.		Price
2655	Battery Complete.....each,	$5.22
2656	1 Copper Oxide Plate, 1 Charge....	1.00
2657	2 Zinc " 1 "	.90
2658	1 Can Caustic Soda, 1 "	.51
2659	1 Bottle Paraffine Oil, 1 "	.13

List No. 2660. (Type V.)
Capacity 150 Ampere Hours.
Liquid-Tight Steel Enameled Jar.
SIZE 5¾x8 INCHES.

List No.		Price
2660	Battery Complete.....each,	$4.50
2661	1 Copper Oxide Plate, 1 Charge....	.56
2662	1 Zinc " 1 "	.65
2663	1 Can Caustic Soda, 1 "	.33
2664	1 Bottle Paraffine Oil, 1 "	.11

List No. 2665. (Type S.)
Capacity 300 Ampere Hours.
Porcelain Jars.
SIZE OVER ALL 5¾x13 INCHES.

List No.		Price.
2665	Battery Complete.....each,	$5.40
2666	2 Copper Oxide Plates, 1 Charge....	1.12
2667	2 Zinc " 1 "	.90
2668	1 Can Caustic Soda, 1 "	.51
2669	1 Bottle Paraffine Oil, 1 "	.11

List No. 2670. (Type SS.)
Capacity 300 Ampere Hours.
Porcelain Jars.
SIZE OVER ALL 6¾x13¾ INCHES.

List No.		Price.
2670	Battery Complete.....each,	$5.86
2671	2 Copper Oxide Plates, 1 Charge....	1.12
2672	2 Zinc " 1 "	.90
2673	1 Can Caustic Soda, 1 "	.51
2674	1 Bottle Paraffine Oil, 1 "	11

List No. 2675. (Type W.)
Capacity 300 Ampere Hours.
Porcelain Jar.
SIZE OVER ALL 7½x15 INCHES.

List No.		Price.
2675	Battery Complete.....each,	$8.72
2676	2 Copper Oxide Plates, 1 Charge....	1.98
2677	2 Zinc " 1 "	1.48
2678	1 Can Caustic Soda, 1 "	.94
2679	1 Bottle Paraffine Oil, 1 "	.14

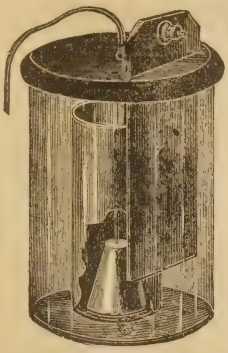
List No. 2680. (Type AA.)
Capacity 300 Ampere Hours.
Liquid-Tight Steel Enameled Jar.
SIZE 7¼x10 INCHES.

List No.		Price.
2680	Battery Complete.....each,	$6.30
2681	1 Copper Oxide Plate, 1 Charge....	1.00
2682	1 Zinc " 1 "	1.00
2683	1 Can Caustic Soda, 1 "	.51
2684	1 Bottle Paraffine Oil, 1 "	.13

Glenoine Lelxnde Mud 80 9-8 1½

TELEPHONE STANDARD FULLER BATTERY

Especially Adapted for Long Distance Telephoning.



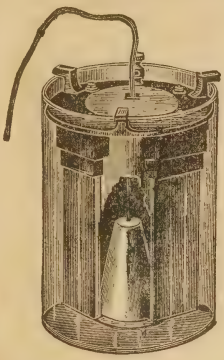
List No		Price.
2575	Cell, Complete..each,	$1.60

Renewal Parts.

List No.		Price.
2576	Glass Jar.....each,	$0.45
2577	Cover for Jar... "	.20
2578	Carbon with Connector ..... "	.60
2579	Porous Cup..... "	.20
2889	Zinc ..... "	.30

We furnish printed instructions with each cell, for setting up and maintaining acid batteries.

COMPOUND FULLER BATTERY.



The Compound Fuller Battery is suitable for **Incandescent Lamps, Motors,** Nickel and other Electro plating. The zinc is kept amalgamated by mercury placed in the porous cup. The battery being completely covered, evaporation is prevented.

List No.		Price
2585	Cell, Complete...each,	$2.20

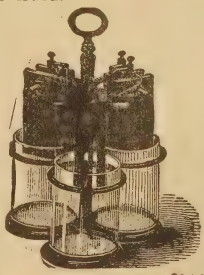
Renewal Parts.

List No.		Price.
2586	Glass Jar.....each,	$0.45
2587	Carbon Hanger, with Binding Post "	.50
2588	Carbons, with Connectors (4), price each.....	.35
	Per set.....	1.30
2589	Porous Cup.....each,	.20
2590	Cover for Porous Cup ..... "	.12
2890	Zinc ..... "	.30

STUDENT'S PLUNGE BATTERY.

These Batteries are the cheapest and most powerful small liquid Batteries for experimental work. The elements are hung on an iron centerpiece which slides on the center rod and can all be lowered at once into the fluid.

List No.		Price.
2770	**1 Cell.** Will run an Electro-Medical machine, Electric Bell or Signal.....	$1.40
2771	**2 Cell.** Will run a Rhumkorff Coil, Geisler Tube Rotator or a 1 candle-power Lamp.....	2.80
2772	**3 Cell.** Will run a Manhattan Motor or any similar Motor or a two candle-power Lamp.....	4.00
2773	**4 Cell.** Will run all above with increased force or a 3 candle power Lamp	$6.50
2774	Extra Zincs will fit any of the above, each	.30



BATTERY ZINCS.

All are of the Best Quality Zinc and Well Amalgamated. Regular size 6½ inches long, ⅜ inch diameter.

List No. 2845 Rolled Zinc

List No. 2846 Rolled Zinc

List No. 2848 Composite

List No. 2849 Square Rolled

List No.		Price.
2845	For Leclanche Battery.....each,	$0.06
2846	" Carbon Cylinder Battery..... "	.06
2848	" " " " ..... "	.06
2849	" Leclanche Battery..... "	.06

No. 2875 A.D.T. Pattern

List No.		Price.
2875	Lockwood Zinc each	$0.60
2858	Boston fire alarm, weight, 4 lbs., Jar, 6x8 inches	.90

List No. 2858

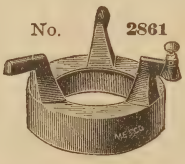
No. 2889

List No.		Price
2889	for No. 2575 Battery, ea.	$.30
2890	for No. 2585 Battery " .	.30
2882	for No. 2 Battery " .	.30

National No. 2882

No. 2855

No. 2861



No. 2863

List No.		Price.
2855	Crowfoot Pattern, weight, 3 lbs.; jar, 6x8 in., ea.	$0.60
2856	" " " 1¾ " " 5x7 " "	.45
2861	Balto F. A. " " 3 " " 6x8 " "	.65
2862	" " " " 4 " " 6x8 " "	.90
2863	Callaud " " 2 " ....."	.50

2859

No. 2879

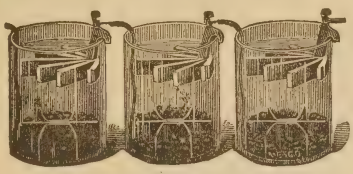
List No.		Price.
2859	Weight, Daniell Pattern 2 lbs.; width, 2 in.: standard, ea.	$0.45
2879	6x8, copper..... "	.14
2880	5x7, " ..... "	.14
2884	No. 2, Samson Zinc..... "	.30

CARBON CYLINDER BATTERY.

The advantage claimed for this Battery is, that in case of a short circuit, the Carbon can be made as strong as when first set up, by thoroughly washing in warm water, drying the Carbon Cylinder and substituting new zinc and fresh Sal-Ammoniac.

List No.		Price.
2400	Complete Cell, with Sal-Ammoniac and Zinc.....	$0.50
2401	Cylinder only, with Bushing.....	.28
2402	Jar only.....	.14

"CROW FOOT" GRAVITY BATTERY.



List No.		Price.
2510	Battery complete, 6 x 8, without Vitriol	$1.10
2855	Zinc, 3 lbs. ea.	.60
2512	Glass Jar, 6x8 ..... "	.45
2879	Copper, 6x8 "	.14
2992	Blue Vitriol, per lb.	.18
2515	Battery Complete. 5 x 7, without Vitriol....	.90
2856	Zinc, 1½ lbs .....each	.45
2517	Glass Jars, 5 x 7..... "	.40
2880	Copper, 5 x 7..... "	.14

CARBON BATTERY PLATES.

For Battery and Experimental Use. Oxidized and Very Porous.

List No.	Inches Long	Inches Wide.	Inches Thick	Price each	List No.	Inches Long	Inches Wide	Inches Thick	Price each
2935	3	2	¼	$0.10	2949	8	5¾	¼	$0.60
2936	3¼	2½	¼	.12	2950	9	2	¼	.40
2937	4¾	1⅜	¼	.12	2951	9	6	¼	.80
2938	4½	2¾	¼	.18	2954	10	6	¼	.80
2941	6	1½	¼	.30	2955	11	6	¼	.50
2944	7	4	¼	.60	2959	11	9	⅜	1.60
2946	8	2	¼	.40	2965	12	10	⅜	2.20

CARBON PENCILS.

For Experimental Purposes.

List No.		Price.
2980	1/16-inch diameter, 12 inch length.....each,	$0.10
2981	⅛ " " " " ..... "	.10
2982	3/16 " " " " ..... "	.10
2983	¼ " " " " ..... "	.10

ZINC PLATES.

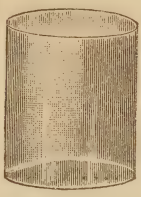
	Price
Zinc Plates, sizes to 3x4 inches, ⅛ to ⅜ thick..per lb.,	$0.50
" " 4x4 to 6x9, ⅛ to ⅜ thick..... "	.40
" " over 6x9, ⅛ to ⅜ thick..... "	.40
" " full sheets, 38x70 inches, ⅛ to ⅜ thick, at lowest market price.	
" Cup, size "Mesco" Dry Battery.....each,	.20

POROUS CELLS.

Type A. Round Porous Cells.

List No.					Price. Per doz.
2901	Size, 2 x 3	in.,	outside	measurement	$2.00
2903	" 1¾ x 4	"	"	"	2.50
2904	" 2 x 3¾	"	"	"	2.50
2906	" 2 x 4¼	"	"	"	3 00
2911	" 3⅛ x 7¼	"	"	"	3.00
2913	" 4 x 11⅛	"	"	"	14.00
2914	" 3 x 5½	"	"	"	2.50

GLASS BATTERY JARS.

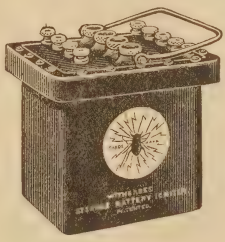


Style A. Round Battery Jars. Inside Measurement.

List No.					Price.
2918	3½ x 4½,	Round	Jar	each,	$0.20
2919	4 x 5	"	"	"	.20
2920	5 x 7	"	"	"	.36
2921	5 x 11	"	"	"	.60
2922	6 x 8	"	"	"	.45
2923	6¼ x 12½	"	"	"	.80
2924	6 x 12	"	"	"	.80
2925	7 x 9	"	"	"	.80

STORAGE BATTERIES.

Witherbee Storage Battery Igniter.



This battery is designed especially to meet the requirements of automobile and motor boat users or in any other cases where a neat, reliable portable battery is required.

The patented jar and vent cap reduce evaporation to a minimum and render damage by stopping practically impossible.

Prices for yacht and house lighting equipments gladly furnished on application.

	Dimensions			Capacity				
No.	Length.	Width.	Height.	Volts.	Amp.	Hrs.	Weight.	Price.
44	7⅜	3½	7⅝	4	40	10	lbs.	$27.00
46	7⅜	4⅝	7⅝	6	40	16	lbs.	40.00
48	7⅜	5⅞	7⅝	8	40	20	lbs.	52.00
54	6⅜	4¾	6⅜	4	50	12	lbs.	32.00
56	6⅜	6⅜	6⅜	6	50	18	lbs.	50.00
56F	12⅞	3⅛	7¼	6	50	18	lbs.	50.00
58	8⅜	6½	6⅜	8	50	22	lbs.	66.00
64	7⅜	5	7⅝	4	60	18	lbs.	40.00
64L	6½	4⅝	9	4	60	18	lbs.	40.00
66	7⅜	6⅞	7⅝	6	60	24	lbs.	58.00
68	8¾	7⅜	7⅝	8	60	35	lbs	64.00
84	7½	6⅝	7⅝	4	80	22	lbs.	50.00
86	7⅜	9¼	7⅝	6	80	34	lbs.	72.00

BATTERY BOXES FOR LECLANCHE OR CARBON BATTERIES.

Made of White Wood, filled and Varnished.

List No.						Price.
13075	2 Cell,	10 in. long,	5 in. wide,	10 in. high	.....	$1.50
13076	3 "	15 "	5 "	10 "	.....	1.80
13077	4 "	20 "	5 "	10 "	.....	2.10
13078	5 "	25 "	5 "	10 "	.....	2.50
13079	6 "	15 "	10 "	10 "	.....	2.80

For 6 x 8 Crowfoot Batteries.

13080	2 Cell,	14 in. long,	7 in. wide,	11 in. high	.....	1.50
13081	3 "	21 "	7 "	11 "	.....	1.80

THE HYDROMETER SYRINGE.

An instrument for testing the specific gravity of a liquid without resorting to the tedious and unclean method of pouring the liquid into a separate vessel.

It is also a Syringe for filling Storage Batteries with acid and regulating the quantity above the plates.

While this instrument is designed for use in connection with Storage Batteries, it is well adapted for testing the fluid of any kind of Battery or any bottled or barreled liquid. Special Hydrometers are provided for any class of work.

The Hydrometer Syringe consists of a specially designed Hydrometer within a glass tube, with a suction bulb at the top, and a hard rubber nozzle at the bottom. The Hydrometer is free to rise and fall, and is guided in its motion by projections on the bulb so that its stem can not touch the sides of the tube, and indicates the specific gravity of the liquid that has been drawn in by the suction of the bulb.

The manner of use is shown by the illustration.

A Special Nozzle is furnished for regulating the quantity of acid in the Cells and above the Plates as shown in the small cut.

The Hydrometers furnished are graduated with the Baume (10° to 40°) and Specific Gravity (1.100 to 1.350 Scales).

The Instrument is put up in a polished hardwood box with hinged cover, ready to be hung on the wall. Brackets in the box support the instrument, and a drip cup with sponge collects the drainage.

Directions for its use, and the comparison of the Baume and Specific Gravity scales, are in the cover of the box.

The instrument is 19 inches long. The case is 21 inches long by 3½ inches square.

List No.		Price.
12961	Complete Instrument in Oak Box, with Plain and Filler Nozzles	$10.00
12962	Complete Instrument in Pine Box, with Plain Nozzle only	8.00

HYDROMETERS.

For testing the strength of the acid in Storage Batteries or any liquid heavier than water.

These instruments have Specific Scales 1.100 to 1.350 and Baume Scales 10° to 35° on same stem.

List No.		Price.
3020	Plain Hydrometer	$1.50
3022	Flat Bulb Hydrometer	1.50

HYDROMETER JAR.

For use with above Hydrometer.
Height, six inches.

3023	Jar only	$0.60

IMPROVED GASOLINE HYDROMETER.

For Automobile and Motor Boat Kits.

This Hydrometer is combined with an accurate Thermometer, so that the temperature may be seen at a glance on the same scale, the correction table is laid off, showing the number of degrees to add or subtract from the Hydrometer reading, at the various temperatures above or below 60° F.

Put up with full directions for use, in a nickel case, size 1x6 inches.

List No.		Price.
3024	Improved Hydrometer, complete	$3.00

PLAIN GASOLINE HYDROMETER.

Same as above but without Thermometer.

3029	Plain Hydrometer	$1.50

BATTERY SUPPLIES.

BLUE VITRIOL.

List No.		Price.
2992	Blue Vitriol, per pound	$0.18

In barrel lots lowest market price.

SAL-AMMONIAC.

2991	99 per cent. pure, per pound	.18

In casks, lowest market price.

BICHROMATE OF POTASH.

2990	Per pound	.35

QUICKSILVER. (Mercury)

2993	Per pound	2.50

SULPHATE OF ZINC.

2995	Per pound	.30

CARBON.

3001	Granulated, for Leclanche Battery, per pound	.10
3002	Fine, for experimental use, per pound	.10
3003	Powdered, for Dry Batteries	.10

OXIDE OF ZINC.

2994	Per pound	.35

PARAFFINE.

2996	Per pound	.30

WAX.

For Sealing Dry Batteries, etc.

2997	Per pound	.20

PARAFFINE OIL.

3006	Including Bottle, per quart	.70

MANGANESE.

3004	Granulated, per pound	.16
3005	Powdered, per pound	.16

ELECTROLYTE.

For Storage Batteries.

13073	Per pound	.20
	Carboys, each	3.00

BATTERY SYRINGE.

List No.		Price.
4926	Syringe, complete	$4.00
4927	Extra Pipes	.50
4928	" Valves	.40

BULB SYRINGE.

For regulating the quantity of acid in batteries, etc. This is made with Heavy Quick Acting Rubber Bulb. Capacity 8 ounces. Furnished with a straight and a bent nozzle, packed in wooden box.

List No.		Price.
12968	Complete	$3.00
12969	Extra Bulb with Fitting	2.00
12970	Extra Nozzles	1.00

BATTERY FUNNELS.

List No.		Price.
3015	½-Pint size, Hard Rubber	$1.00
3016	1 " " " "	2.00
3017	1 quart " " "	3.00
3018	1 " " glass	1.20

GRADUATES.

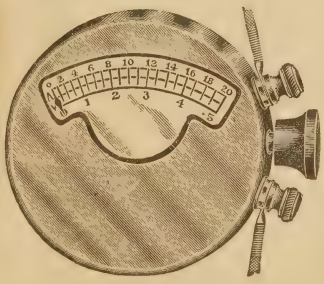
List No.		Price.
3019	16-ounce, Glass	$1.00

BATTERY BRUSHES.

List No.		Price.
3011	2 Rows, per dozen	$2.50
3012	3 " " "	5.00
3013	4 " " "	6.50

BATTERY TESTING INSTRUMENTS.

AUTOMATIC VOLT-AMMETER.



No change is made in the connection to the battery for the two readings, as that in amperes is obtained by simply pressing the button.

Each instrument is calibrated by hand to standardized apparatus, which fact itself is a proof of its accuracy.

The manufacturers guarantee every instrument to be free from defects.

The Automatic Volt-Ammeter should not be used for testing storage cells, as a Voltmeter only should be used for this purpose.

A heavy Leather Case is furnished with each instrument.

List No.		Price.
8595	0 to 3 Volts, 0 to 20 Amperes	$ 8.00
8596	" 5 " " "	8.00
8597	" 8 " " "	9.50
8598	0 to 10 Volts, 0 to 20 Amperes	9.50
8599	" 15 " " "	9.50
8600	" 20 " " "	12.00

UNIVERSAL BATTERY GUAGE.

Universal Battery Guage is constructed similar to the Warner, is sold at a popular price and is made in two styles--one for testing a single cell (List No. **3349**) and the other for testing from two to five cells in series (List No. **8634**). List No. **3349** is quite accurate for measuring voltage. A battery showing 25 on this guage has a voltage of 1. When the guage registers 38, the battery has a voltage of about 1½.

A handy device is a Detachable Flexible Conductor ten inches long, with a Metallic Tip; this attached to the Insulated Binding Post allows the Case to be used on one Post of Battery and the tip of the Cord for the opposite Post. This Cord is extra and not included in price of the guages.

List No.		Price.
3349	One Cell	$6.00
8634	Two to Five Cells	6.50
9167	Detachable Cord, 10 inches long	.30

THE ELITE POCKET AMMETER.

For Battery Testing.

Ready for use with Flexible Cord attached to upper Contact.

Works regardless of polarity.

This Instrument is the same size as a watch and is made with the same care. Has hardened and polished pivots. Each one is carefully calibrated and will give perfect satisfaction.

Each Instrument is contained in a neat Leather Case.

Made 0 to 20 and 0 to 30 amperes at same price.

List No.		Price.
12982	Elite Pocket Ammeter	$5.00

ELITE VOLT-AMMETER.

Flexible Cord attached to upper Contact. Size of an ordinary watch and heavily nickel-plated. Its range is 0 to 6 volts, 0 to 30 amperes. Has two lower Contacts: one for amperage, the other for voltage. A neat, compact and reliable Instrument.

List No.		Price.
12983	With Leather Case	$9.00

IGNITION SUPPLIES.

STA-RITE SPARK PLUGS.

The Sta-Rite Plugs have double air space self-packing Joints, and short protected Point. The best imported porcelain used.

List No.		Price.
12984	½-in. Pipe T., ⅞-in. diameter 14 Th., 3 in. long, ¾-in. shoulder to point	1.65
12985	French Metric, 18 mm., 45/64-in. diameter 17 Th., 2 7/16-in. long, 7/16 in. shoulder to point	1.65
12986	½-in. Pipe Th., ⅞-in. diameter 14 Th 3-in long, 1-in. shoulder to point	1.92
12987	½-in. Pipe Th., ⅞-in. diameter 14 Th., 3¾-in. long, 1⅜-in, shoulder to point. Fits Winton	1.65
12988	French Metric, 18mm., 45/64-in. diameter 17 Th., 2⅝-in. long, ⅝-in. shoulder to point. Double Porcelain	1.65
12989	Same as No. 12984 except that it is separable, readily taken apart for cleaning without disturbing packing	1.92

"SPIT FIRE" SPARK PLUG.

These Plugs actually "spit fire" and give energetic ignition and greater power.

Genuine Iridium Platinum Points used on these plugs.

STANDARD SIZES.

List No.		Price.
12990	½-in. Pipe Thread Short	$2.00
12991	½ " " " Long	2.00
12992	⅜ " " "	2.00
12993	Metric, 18 mm., 1.5 Short	2.00

If name of car is given when ordering, mistakes will be avoided.

With protector for porcelain **50c.** additional.

"DE DION" STYLE SPARK PLUG.

This is a good Spark Plug at a very low price. Made in Metric and ½-inch American Pipe Standard Thread.

List No.		Price.
12995	Metric, 18 mm. Thread	$1.40
12996	½-inch Thread	1.40

CUT-OUT SWITCHES.

For Gas Engines.
3 inches in diameter.

This Switch has two points and can be used with two sets of Batteries, or one set and Dynamo. If Plug is removed current cannot be turned on.

List No.		Price.
12998	Cut-out Switch, complete.....	$1.50
12999	Extra Plugs	.20

THE "ECONOMY" AUTOMOBILE SWITCH.

The "Economy" Switch is designed to increase the life and use of Primary Batteries. It is neat and attractive in appearance, substantially constructed. If used as per instructions, it will more than double the life of the batteries.

OPERATION.

Switching on First Point.	First set of Batteries.
" " Second "	Second set of Batteries.
" " Third "	Both sets in Multiple Series.
" " Fourth "	Two set in Series.

List No.		Price.
13001	Switch, complete with diagram.....	$1.50

MAGNETO AND BATTERY SWITCH.

For Gas Engines.

The construction of this Switch is such that it is impossible to miss an ignition, thereby losing a stroke of the engine when throwing in the Magneto or fresh set of Batteries. The Metal Parts are all Copper, mounted on Black Enamel Slate Base. Size of Base, 2 x 4 inches.

List No.		Price.
11918	Switch, complete, std. pkg. 50.....each,	$0.90

BATTERY CONNECTOR.

This Battery Connector cannot possibly loosen from vibration, because the rubber, under pressure of the nut, holds the nut so securely that no amount of vibration can budge it.

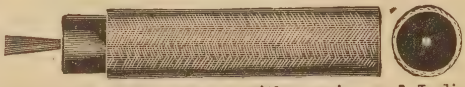
List No.		Price.
13002	Battery Connector	$0.10

STAMPED COPPER TERMINALS.

These Terminals are used to connect Batteries, Coils, etc., on Automobiles, Launches and Stationary Work.

List No.		Price.
9068	Small size.....Per 100,	$2.50
9069	Large " ..... "	5.00

AUTOMOBILE CABLE.



This Cable is made of fine copper strands wound with pure tape and covered with semi-cured India rubber. The rubber is protected by three cotton braids, each enameled and baked. The enamel protects the rubber from grease and oil; the braid gives protection from mechanical injury.

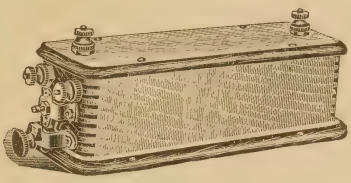
List No.		Price.
13003	5-32 over all, for Primary Wiring....per foot,	$0.06
13004	15-32 over all, for Secondary Wiring.... "	.30

FOOT PUSH FOR AUTOMOBILES.

This Push is perfectly watertight and is used to make contact for ringing bell with the foot. A heavy rubber gasket is furnished to insulate it from the vehicle. Made of cast brass and very durable. For use on 100 volts or less.

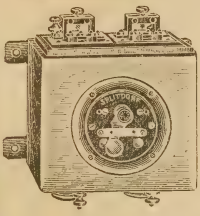
List No.		Price.
13022	Foot Push, complete	$3.30

STANDARD VIBRATING COILS.



For Jump Spark. This is the style in most general use and gives good satisfaction under all conditions. Has improved Vibrator that will not stick. Easily adjusted and will stay there. List No. **16280**, for one-cylinder engine, Price $11.00

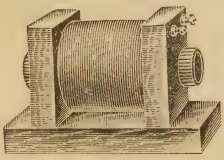
DASH TYPE VIBRATING COILS.



These Coils are furnished with or without cut-out switch as preferred.

List No.		Price.
13009	1-Cylinder, with Switch.	$17.00
13010	1-Cylinder, no Switch...	15.00
13011	2-Cylinder, with Switch.	32.00
13012	2-Cylinder, no Switch...	30.00
13013	3-Cylinder, with Switch.	48.00
13014	3-Cylinder, no Switch...	46.00
13015	4-Cylinder, with Switch.	60.00
13016	4-Cylinder, no Switch...	58.00

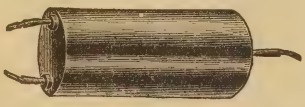
EDISON SPARK COILS.



The Edison Type Spark Coil is used for "wipe" or "make and break" contact gas engines. Can be used with either batteries or generator, a well made, strong and moisture-proof coil. Unexcelled for marine use.

List No		Price.
3324	Edison Spark Coil.....	$4.50

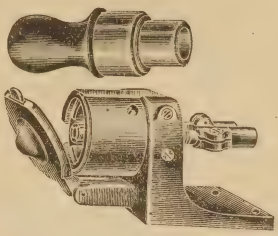
MOTORCYCLE COILS.



Made in two sizes.

List No.		Price.
13017	L. Coil, 10x2½	$10.00
13018	S. Coil, 6½x3..	10.00

CHARGING PLUG AND RECEPTACLE FOR ELECTRIC AUTOMOBILES.



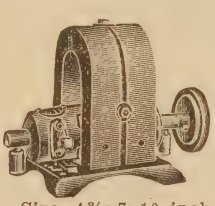
This is the latest type plug and receptacle on the market, is strong and well made.

Handle and other insulation is made of composition.

Capacity, 35 amperes.

List No.		Price.
13020	Plug and Receptacle complete, without cable...	$10.00
13021	Plug only	5.00

WIZARD TUBULAR MAGNETO.



This Magneto will run in either direction and can be attached to any Gas or Gasoline Engine. Will start any Engine with one turn of wheel if you have the proper mixture. The Magnets are permanent and will not decrease in power. A good spark can be had at very low speed, and for safety to Engine Contacts speed should not greatly exceed 1500 R. P. M. Has Hard Drawn Copper Commutator, Bronze Bearings and High Grade Steel Shaft, Wick Oilers.

Size, 4¾x7x10 inches, weight 10 pounds.

Contact spark only.

Furnished with Round Belt or Friction Pulley as preferred.

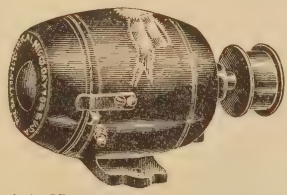
WITH PLAIN PULLEY.

List No.		Price.
3535	Wizard Magneto, with Round Belt Pulley.....	$18.00
3536	" " " Friction Pulley	18.00
3537	" " Brushes .....Per pair	.70

WITH GOVERNOR PULLEY.

List No.		Price.
13024	Wizard Magneto, with Friction Governor Pulley	$20.00
13025	" " " Belt Governor Pulley..	20.00

APPLE DYNAMOS.



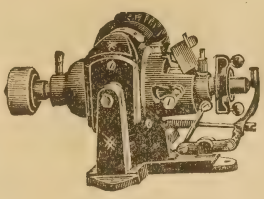
The Apple Igniting Dynamo is one of the best low voltage Dynamos on the market.

This Dynamo can be driven by Flat or Round Belt, Friction Wheel, Gear or Chain.

Dimensions, 5½x10½x6 in. Weight, 17 pounds. The various Types and Combinations are listed below.

List No.		Price.
13028	Apple Dynamo, with plain 1½-inch Belt Pulley	$45.00
13029	Apple Dynamo, with plain 1½-inch Belt Pulley and mounted with Touch Spark Coil in Base	50.40
13030	Apple Dynamo, with plain 1½-inch Belt Pulley, and mounted with Jump Spark Coil in Base	58.50
13031	Apple Dynamo, plain 1½-inch Friction Pulley, and mounted on Spring Base.....	50.40
13032	Spring Base only	3.60
13033	Apple Dashboard Dynamo, fitted with 2-inch Belt Clutch, or Bevel Friction Governor	57.60

THE AUTO SPARKER.



This is a well-known article and has many unique features.

A positive governor is one of the most important.

This machine will ignite on slow speed, and can be used on any style of Gas Engine made.

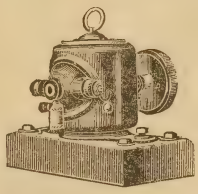
It is in all respects adapted to use on Automobiles, Boats, Traction Engines, etc., and can be placed in any position.

Size, 10½x10x6½ inches.

Weight, 23 lbs.

List No.		Price.
3538	Auto Sparker, com...	$40.00

THE K. & D. SPARKING DYNAMO.



The K. and D. Gas Engine Igniter is of sufficient capacity to operate large and multiple cylinder engines where a constant supply of energy is required and is equally satisfactory with small engines.

Weight, 15 pounds. Height, 7½ in. Length of base, 9 in. Length of shaft, 7½ in.

Friction or grooved pulley, 2½ in. in diameter.

Speed, 1000 to 2500. Capacity, 50 watts, 5 amperes, 10 volts.

List No.		Price.
3553	Dynamo with grooved pulley	$27.00
3554	Dynamo with friction pulley	27.00
3512	Dynamo with friction pulley and spring base	29.00

VESTIBULE HOUSE LETTER BOXES.

CAST BRONZE LETTER BOX.

Can be used separate, or mounted in Gang with Wood Frame.

Plate, size 13¼x4½ inches.

Letter opening, 4 inches wide.

Separate Tin Box attached to back.

This Letter Box has detachable socket for Push Button, easily removed for Wiring. Can be furnished without Mouthpiece, if desired.

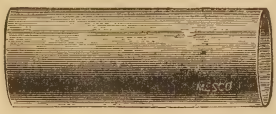
List No.		Price.
3050	Plain Bronze, mounted, per plate	$3.20
3051	" " not " "	2.70
3052	Oxodized Copper, " "	3.50
3053	" " not " "	3.00

Same style with 4½ inch letter opening.
Plate, size 13¼x5 inches.

3065	Plain Bronze, mounted, per plate	3.80
3066	" " not " "	3.30
3067	Oxidized Copper, " "	4.00
3068	" " not " "	3.50

We manufacture and carry in stock a full line of Letter Boxes. The designs are numerous and if interested in this line we would advise that you write for descriptions and prices.

SPEAKING TUBE.



5in. Lengths—Soldered Seams and Joints.

List No.		Price.
3165	1 in. diam., 1000 ft.	$26.00
3166	1¼ " " "	32.00

LOCK SEAM TUBE.

3160 1 inch diameter, per 1000 feet $26.00

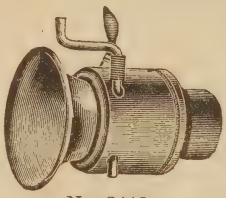
Crating extra.

SPEAKING TUBE ELBOWS.

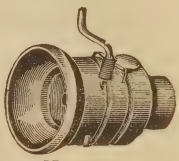
No. 3170. No. 3171. No. 3175. No. 3180. No. 3184.

List No.	Style	Size	Price, per 100
3170	Square	1 in.	$2.50
3171	Hexagonal	1 in.	3.00
3172	Hexagonal	1¼ in	5.50
3175	Stamped	1 in.	4.50
3180	Obtuse	1 in.	2.50
3181	Obtuse	1¼ in.	5.50
3184	Tee Joints	1 in.	7.00
3185	Tee Joints	1¼ in.	9.00

SPEAKING TUBE WHISTLES.



No. 3116



No. 3110

PORCELAIN.

List No.		Price per doz.
3110	For 1 inch Tube	$2.00
3111	" 1¼ " "	2.50

SPUN METAL.

3116	" 1 " "	3.00
3117	" 1¼ " "	4.50

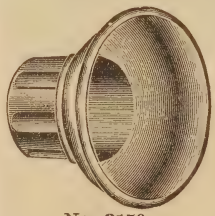
Special prices for quantities.

CAST BRONZE MOUTH-PIECES.

List No. 3123.

List No.		Price. each.
3123	Solid Bronze, for 1-in. tube	$0.50

SPUN NICKEL OR BRONZE MOUTH-PIECES.

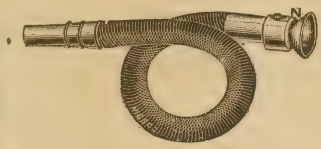


No. 3150

No. 3135

List No.		Price.
3135	1 inch, each	$0.12
3136	1¼ " "	.20
3150	1 " "	.06

FLEXIBLE TERMINAL.



Convenient for use on end of speaking tube line. Fitted with either whistle or open mouth-peice.

List No.		Price.
3155	2 ft.	$1.50
3156	3 ft.	1.75

For each additional foot 30 cents extra.

TUBE RACK.

To hold the mouth-piece of Flexible Tube Terminals when not in actual use.

List No.		Price.
3159	Nickel-plated ..... each,	$0.30

STAPLE DRIVER.

3145	Staple Driver ..... each	.30

HOOKS, STAPLES AND STRAPS.

For Fastening Tubes to Wall.

List No.		Price.
3146	Iron Hooks ..... per doz.	$0.20
3147	Speaking Tube Staples. per lb.	.30
3148	Tinned Straps ..... per lb.	.30

FLEXIBLE SPEAKING TUBE.

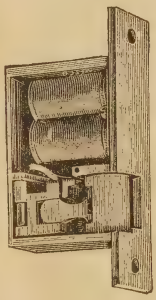
One inch diameter covered with black or green braid.

List No.		Price.
3157	Any length .... per ft.	$0.30

ELECTRIC DOOR OPENERS.

The Manhattan Door Openers are so constructed that positive action is assured when current is applied. The Lock Releasing Device is operated by the Armature and is so easily controlled that two cells of Open Circuit Battery will release it on short lines, and not over four Cells are required for the longest circuits with heavy doors. Cast Bronze Frame and Face Plate.

Manhattan Mortise Door Opener.



This Door Opener is used in place of Latch Striking Plate and is to be mortised in door frame.

A Push Out Spring is furnished with the regular type to hold door ajar until opened.

Size of mortise required, 3¾x2½x1⅜ in.

List No.		Price.
3190	Mortise Door Opener with Push Out Spring	$2.70

WITH LARGE FACE PLATE.

List No.	Size, 2x7⅝ inches.	Price.
3164	Mortise Door Opener	3.25

WITH SPECIAL MAGNETS.

The Special Magnets are so arranged that when current is applied the Latch becomes disengaged and stays so until the door is opened.

Push Out Spring is not furnished or required.

List No.		Price.
3188	Mortise Door Opener	$3.00

MANHATTAN JUNIOR MORTISE DOOR OPENER.

This is a small edition of our No. **3190** and is intended for use on doors where a large mortise is impossible.

This is one of the smallest Door Openers on the market, size of mortise 3½x1x2¼ inches.

List No. Price.

3161 Junior Mortise Door Opener with Push Out Spring.....$2.70

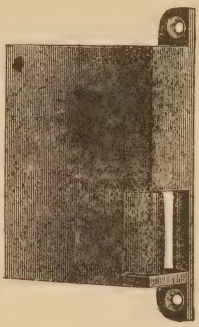
WITH LARGE FACE PLATE.

3162 Junior Mortise Door Opener with Push Out Spring..... 3.00

WITH SPECIAL MAGNETS.

3163 Junior Mortise Door Opener, no Push Out Spring..... 3.00

MANHATTAN RIM DOOR OPENER.



For use with surface or Rim Locks on thin doors, iron gates, etc.

Cast Bronze, polished, size, 3¼x5x1⅜ inches.

List No. Price.

3193 Rim Door Opener with Push Out Spring.....$3.25

WITH SPECIAL MAGNETS.

3189 Rim Door Opener, no Push Out Spring 3.50

EDWARDS' DOOR OPENERS.

3191 Edward's Mortise Door Opener 2.70

3194 Edward's Rim Door Opener 4.00

SCHNEIDER DOOR OPENERS.

3192 Schneider Mortise Door Opener 2.70

Special prices for quantities.

AUTOMATIC GAS BURNERS.

These burners can be lighted and extinguished by push button keys described below. Buttons can be placed any desired distance from the burners.

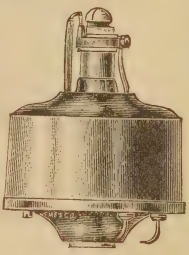
List No. Price.

3220 "Advance" $6.00

3223 "Boston" 6.00

No. **3220.**—Cut ½ size.

No. **3223.**—Cut ½ size.



"ADVANCE" GASOLINE AUTOMATIC BURNER.

Cut shows Burner with Tirrell Top 1/3 size.

List No. Price.

3230 Gasoline Automatic $9.00

RATCHET CANDLE BURNER.

The mechanism of this Candle Burner is very simple and not liable to get out of order. Plain White Candle Slips are furnished with the Burner unless specially ordered. Without Pull Chain.

List. No. Price.

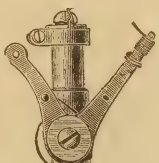
3241 Ratchet Candle Burner, Polished Brass with Porcelain Slips.....$3.50

THE "ADVANCE" CANDLE BURNER.

The mechanism of this Burner is simple and positive, and contains no parts which are liable to get out of order and give trouble.

List No. Price.

3242 Advance Candle Burner, Polished Brass..... $4.00



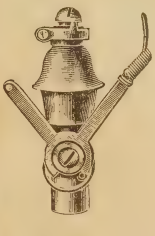
PLAIN PILLAR BURNER.

The Plain Pillar Burner is the simplest form of Electric Gas Lighting Burner made. These burners are favored by many contractors as they are less liable to get out of order than the more complicated styles.

Price does not include chains.

List No. Price.

3196 Plain Pillar Burner..... $0.50



PLAIN BULB BURNER.

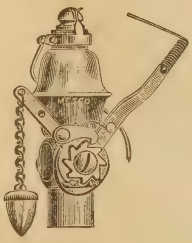
This Burner contains no Valve but is lighted by the Electric Spark after the Gas has been turned on by the regular Gas Key.

A strong well made burner.

List No. Price.

3197 Plain Bulb Burner $0.70

BOSTON RATCHET BURNER.

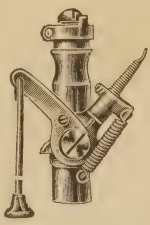


This Burner is made with a Four-way Gas Cock operated by a Ratchet Wheel and Pawl; the first pull of the Chain turning on and lighting the gas, and the next turning off and extinguishing same.

List No. Price.

3195 Ratchet Burner without Chain.....$1.10

THE IMPROVED No. 10 BURNER.



This Burner is an improvement over the old No. 10 Burner. The mechanism is more simple, and the movable Electrode has the desirable advantage of not passing through the flame, either in lighting or extinguishing.

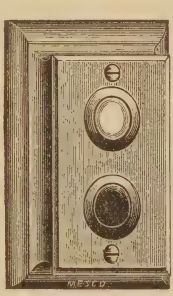
It is impossible to short circuit the improved Burner, as in extinguishing, the Electrodes do not come in contact.

This Burner has been on the market for three years, and is without question, the most Perfect Stiff-pull Burner manufactured.

List No.		Price.
3205	Burner with 6-inch Pull.....	$0.90

AUTOMATIC GAS BURNER KEYS.

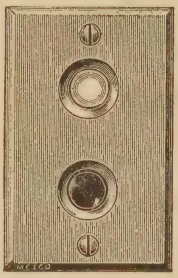
Walnut, Ash and Oak.



Has rubbing inside contact points, pearl buttons and nickel trimmings.

List No.		Price.
3235	2-Button for 1 Burner.....	$0.50
3236	4-Button " 2 "	.80
3237	6-Button " 3 "	1.10
3238	8-Button " 4 "	1.50
3239	10-Button " 5 "	2.00
3240	12-Button " 6 "	2.50

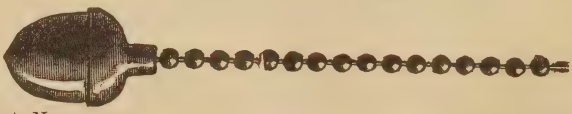
NICKEL-PLATED OR BRONZE PLATE. PEARL BUTTONS.



List No.		Price.
3245	2-Button for 1 Burner..each,	$0.50
3247	6-Button " 3 " .. "	1.10
3246	4-Button " 2 " .. "	.80
3248	8-Button " 4 " .. "	1.50
3249	10-Button " 5 " .. "	2.00
3250	12-Button " 6 " .. "	2.50

Larger sizes to order.

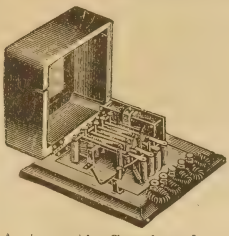
COMPLETE CHAINS.



List No.		Price each.
3272	Gilt, 4 inches long	$0.12
3273	" 6 " "	.14
3274	" 8 " "	.16
3275	" 10 " "	.18
3276	Nickel-plated, 4 inches long.....	.18
3277	" " 6 " "	.20
3278	" " 8 " "	.22
3279	" " 10 " "	.24

Stiff Rod Pulls at same prices as above.

THE BOSTON AUTOMATIC SECTIONAL CUT-OUT.



Perhaps the greatest obstacle to a more general introduction and use of electric gas-lighting apparatus has arisen from "grounding" or accidental closing of circuits, and consequent running down or depletion of the battery. Numerous instruments have been devised for overcoming these difficulties, but they have been either inadequate or so complicated as to be more liable to get out of order than the apparatus they were designed to protect. The Automatic Sectional Cut-out, illustrated herewith, has solved the problem satisfactorily. The instrument is arranged to leave all circuits in the several sections of the house not in fault, fully operative, and to indicate at a glance which circuit is out of order.

List No.			Price.
3285	1	Section, complete	$ 7.70
3286	2	" "	12.10
3287	3	" "	14.30
3288	4	" "	17.60
3289	6	" "	24.20
3290	8	" "	31.90
3291	10	" "	38.50

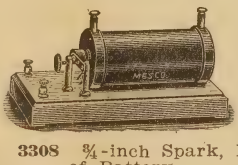
BATTERY CUT-OUT.

This is a reliable Battery Cut-out, low enough in price to be a paying investment for owners of even small battery plants. It has the following advantages:

Owners of gas-lighting batteries will often save its cost at only one cross, as they can easily find and remove a caught burner or chain and restore it themselves without calling in an expert, to say nothing of saving renewals to their batteries; and a battery is never as good as before, if it has been short-circuited awhile, even after renewal by an expert. Its use is not limited to gas-lighting batteries. It will always disconnect and save the battery if the wires become crossed. The Cut-out has been thoroughly tested and is giving complete satisfaction. The cover is a metal front. **It can be easily removed by a slight twisting motion.**

List No.		Price.
3295	Cut-out, complete	$7.00

RHUMKORFF INDUCTION COIL.



List No.		Price.
3305	⅛-inch Spark, lights 4 burners, with 6 Cells of Battery	$6.00
3306	¼-inch Spark, lights 4 burners, with 6 Cells of Battery	8.00
3307	½-inch Spark, lights 8 burners, with 6 Cells of Battery	14.00
3308	¾-inch Spark, lights 12 burners, with 8 Cells of Battery	20.00
3309	1-inch Spark, lights 16 burners, with 8 Cells of Battery	28.00

GAS LIGHTING SPARK COIL.

For use in Electric Gas Lighting Circuits.

Wound 6 convolutions. No. 14 pure copper wire. Covered with imitation morocco; polished binding posts. Ebonized heads filled so that the core wires are not exposed. A first-class Spark Coil in every respect.

List No.		Price.
3300	8-inch	$1.70
3301	10-inch	2.20
3302	12-inch	2.60

ELECTRIC SEARCHLIGHT.

EUREKA SEARCHLIGHT.

This is a substantial and well made Outfit. The case is of metal, covered with a soft leatherette outer covering. All of the exposed metal parts are heavily nickel-plated. The reflector is silver-plated and highly polished. The lamp is of two candle-power but with the special reflector and lens the light is greatly intensified. The contact is made by pressing the long metal spring against the screw cap of the base (as per illustration).

One battery will illuminate the lamp several thousand times. Batteries can be changed by unscrewing the cap at the base which allows the old batteries to slide out and new ones to be inserted; when cap is replaced the outfit is ready for use again. You will find this searchlight very handy for any occasion when a light is desirable for a short time. It is absolutely safe.

They are used in Gas Houses, Powder Mills, Oil Refineries and Thousands of other places. We guarantee each one to work satisfactorily.

List No.		Price.
5260	Searchlight as Illustrated, with Battery	$1.50
5261	Extra Battery	.40
5262	Bulb	.50

"EVER READY" VEST POCKET FLASH LIGHT.

BABY FLASH LIGHT.

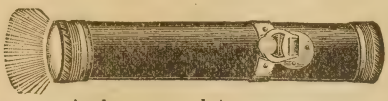
List No.		Price.
13082	Size, 1x6 inches, complete	$ 1.50
13083	Extra Battery	.40

REGULAR FLASH LIGHT.

List No.		Price.
13084	Size, 1½ x 8½ inches, complete	$ 1.70
5261	Extra Battery	.40
13085	Size, 1½x11 inches, complete	2.40
5357	Extra Battery	.45
13086	Size, 1½x13 inches, complete	2.70
5359	Extra Battery	.70

IMPROVED FLASH LIGHT.

The Tube of this Flash Light is made of Hard Fibre, it is highly polished and will not corrode.



List No.		Price.
13087	1½ x 8 inches, complete	$ 2.00
5261	Extra Battery.	.40
13088	1½ x 11 inches, complete	2.70
5357	Extra Battery	.45
13089	1½x13 inches, complete	3.40
5359	Extra Battery	.70

MINERS' FLASH LIGHT.

These Lights are provided with large Lenses and highly polished Reflector. This enlarges the field of the Beam, so that a larger area of dark surroundings can be immediately seen and explored, an advantage in many cases. Lens Cap, is fixed with Snap and Hinge, enabling lens to be swung open to reach Lamp Bulb. Has new style Catch, giving permanent light if desired.

List No.		Price.
13090	Size, 1½x8½ inches, complete	$ 3.40
5261	Extra Battery	.40
5356	Size, 1½x11 inches, complete	4.50
5357	Extra Battery	.45
5358	Size, 1½x13 inches, complete	4.80
5359	Extra Battery	.70

ELECTRIC INTERIOR SEARCHLIGHT.

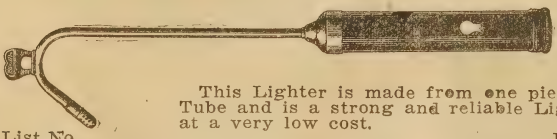
This Searchlight is expressly made for the purpose of Examining the interior of Barrels, Hogsheads, etc., where an ordinary lamp would be dangerous or useless. Extensively used by engineers for examining the inner parts of machinery where outside light cannot strike. The article is strongly made; highly polished Nickel Rod, Top and Base Caps. The Bulb is protected by a Guard.

List No.		Price
5403	Searchlight, complete with Battery	$ 8.00
5404	Extra Battery	.70
5405	Extra Bulb	.70

PLAIN GAS LIGHTER.

List No.		Price.
5314	Lighter, complete with one extra Coil and Guard	$ 4.80
5315	Extra Battery	.40
5191	Extra Coil and Guard	1.00

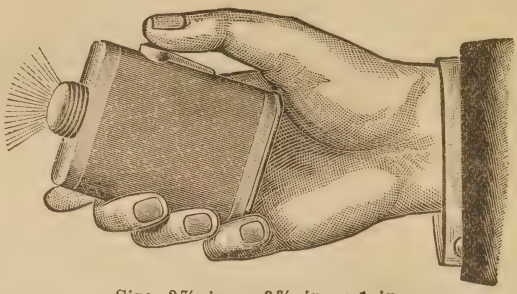
COMPETITION GAS LIGHTER.



This Lighter is made from one piece of Tube and is a strong and reliable Lighter at a very low cost.

List No.		Price.
13091	Lighter, complete	$ 2.80
13092	Extra Battery	.40
13093	Extra Coil	.50

THE EUREKA VEST POCKET FLASHLIGHT.



Size, 2⅞ in. x 3¾ in. x 1 in.
A smaller edition of Eureka Search-light

This is a practical and durable article, gives a brilliant light, and will be found very useful around the house, camp, automobile, yacht, etc. Invaluable for the traveler, as it takes up so little space and is always ready when wanted.

List No.			Price.
5372	Vest Pocket Light, complete	each,	$1.20
	By mail, extra	"	.20
5373	Extra Battery	"	.40
	By mail, extra	"	.14

"EVER READY" VEST POCKET FLASH LIGHT.

A Constant Companion.

This is a very fine article, has Alligator Cover and highly polished Nickel-Plated Trimmings.

List No.		Price.
5382	Light, complete	$1.50
5373	Extra Battery	.40

"EVER READY" VEST POCKET FLASH LIGHT.

Edition de Luxe.

The Case of this Light is made of Hard Fibre, will not corrode or stick to Battery and is very durable. All trimmings are Nickel-Plated.

List No.		Price.
5383	Light, Complete	$1.75
5373	Extra Battery	.40

THE SKULL SCARF PIN.

Made of pure ivory.

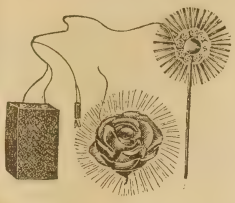
Very realistic and startling.

When lighted the skull becomes transparent.

List No.			Price.
9095	Pin complete, with dry battery, connecting cords and push	each,	$3.40
9096	Extra dry battery		.45

ELECTRIC SCARF PINS.

ELECTRIC LIGHT CLUSTER SCARF PIN.



This is a handsome cluster scarf pin set with brilliant stones which sparkle like diamonds when light is turned on.

It is a very fine outfit and is sure to give satisfaction.

List No.		Price.
9098	Pin complete, with dry battery connecting cords and push.. each,	$3.00
9096	Extra dry battery...	.45

ELECTRIC ROSE BUTTONHOLE FLOWER.

A very unique article. When light is turned on it glows with a rich red hue of great beauty.

List No.		Price.
9099	Rose complete, with dry battery, connecting cords and push.....each,	$3.00
9096	Extra dry battery	.45

THE ELK SCARF PIN.

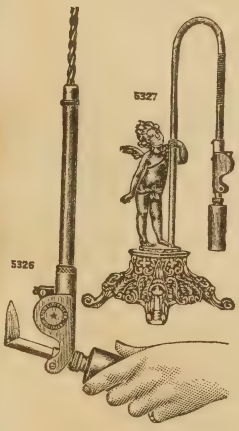
Made of pure ivory.

This is a fine carving and makes a very handsome ornament.

When lighted it becomes transparent.

List No.		Price.
9097	Pin complete, with dry battery, connecting cords and push .....each,	$3.40
9096	Extra dry battery.....	.45

ELECTRIC CIGAR LIGHTERS.



List No. 5326.

This Cigar Lighter is made entirely of brass, heavily nickel-plated, has indestructible asbestos wick. The wearing parts are of tool steel. The lighter is suspended from the ceiling, or an arm, by an incandescent lamp cord which serves also as a conductor from battery to lighter. Height from counter easily adjusted. The battery can be put in any convenient place.

Furnished complete with batteries, spark coil and full directions for putting up.

List No. 5327.

The base and statue of Cupid are made of metal, and the whole, including lighter and arm, is finely finished in oxidized copper, making a very handsome and showy appearance. Height over all 22 inches.

This lighter is portable and can be set on cigar case, counter, pedestal or wherever desired, and the battery and spark coil can be set under the counter or any place convenient.

List No.		Price.
5326	Complete	$10.00
5327	Complete	16.00

ELECTRIC SOLDERING IRONS.

Recent improvements, both electrical and mechanical, have been made in these Irons.

The small cost of operating, freedom from open gas, gasoline or charcoal fires, and their attending heat, odor and danger, and its continuously applied heat without "burning up the Tip," are features that have caused thousands of them to be used.

The total weight of the larger Irons have been reduced, still retaining the full size and weight of Coppers. All tips are interchangeable on the same size of Irons and can be instantly removed.

List No.		Price.
7995	Telephone, Light Wire work. ⅞-inch diameter by 11 inches long, complete with Cord and Plug, 75 Watts	$10.00
	Extra Tip	1.00
7996	"Light," for small work. 1-inch-diameter by 12 inches long, complete with Cord and Plug, 100 Watts	10.00
	Extra Tip	1.20
7997	"Medium," equal to about a "two-pound Iron," 1¼-inch diameter by 15 inches long, complete with Cord and Plug, 200 Watts	10.50
	Extra Tip	1.30

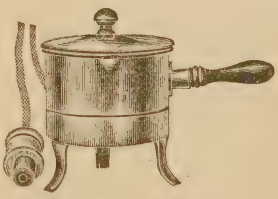
ELECTRIC CURLING IRON HEATERS.

These may be attached to any lamp socket, heat quickly, use no more current than an incandescent lamp, and do away with the use of more or less dangerous heating devices in the dressing room and the Tongs are always clean.

When the Tongs are removed from the Heater the current is automatically cut off.

List No.		Price.
8060	Nickel-Plated, Marbleized Base, 60 Watts	$ 5.00
8062	Nickel-Plated, White Marble Base, 60 Watts	6.00
8064	Nickel-Plated, Onyx Base, 60 Watts	7.50

INDISPENSABLE WATER HEATER.



This Water Heater is made in two sizes. The quart size will boil a cup of water in two minutes and the pint size in three minutes.

Sanitary, light and portable. Polished Nickel Plate, complete, with Six-Foot Cord and Plug.

List No.		Price.
13145	1 Pint Size, 400 Watts	$8.00
13146	1 Quart Size, 550 Watts	10.50

Always state Voltage when ordering.

PLUG-SWITCHES FOR HEATING APPARATUS.

List No.		Price.
8085		$1.50
8087		1.25

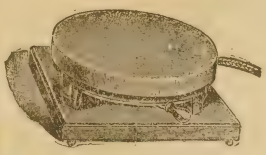
Connectors.

8090		1.75
8091		2.00

Flexible Conductors.

8094	per foot,	.24

ELECTRIC DISC HEATERS.



Are so well known that no description is necessary.

Recent improvements have made them more efficient than earlier types.

All stoves are mounted on Enameled Slate, have four feet of Special Cord and operate equally well on alternating or direct current.

Without Regulating Switches.

List No.		Price.
7950	4½-in. Diameter, Cord and Plug, 200 Watts..	$ 6.50
7951	6-in. Diameter, Cord only, 440 Watts.....	10.00

With Regulating Switches Giving Three Divisions of Heat.

List No.		Price.
7958	7-in. Diameter, Cord only, 120 to 600 Watts..	$14.50
7959	8 " " " " 165 to 825 " ..	18.00
7960	10 " " " " 275 to 1100 " ..	24.00

ELECTRIC TEA KETTLES.

MADE FOR ANY VOLTAGE 100 TO 240.

The silent electric current quickly supplies the necessary heat without the use of alcohol, matches or flame, and the kettles being removable, leave a convenient ornamental heater for warming wafers or biscuits. The heaters have regulating switches. Finish and workmanship of the best. Highly finished in silver or nickel-plate.

List No.		Watts.	Price.
8010	One qt. Nickel-plated. Three heats. Cord, no plug.....	440	$24.00
8011	One qt. Silver-plated. Three heats. Cord, no plug	440	32.00

IMPROVED ELECTRIC CHAFING DISH.

The cost for operation is less than for alcohol, and the Electric Chafing Dish is free from all the annoying and dangerous features incident to the use of flames.

The Chafing Dish is instantly removable from the heater, leaving a handsome electric stove available for toast, tea, and all the many uses to which an electric stove may be applied.

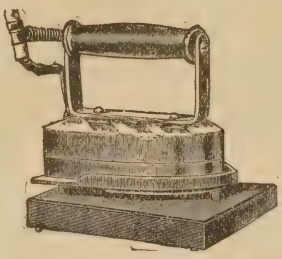
All are made of heavy copper, with interiors double tinned, outside of the heaviest nickel or silver-plate as listed. Regulating switches have white enameled handles.

All are sent complete with flexible connecting cord, and complete instructions for use.

List No.		Watts.	Price.
8014	Two pts. Suitable for one or two. Complete with flexible conductor and plug ready to connect to lamp socket. Has one heat. Nickel-plated.	250	$18.00
8015	Two pts. Has three divisions of heat and regulating switch. Nickel-plated	250	22.00
8016	Three pts. Standard size. Plain, with flexible conductor. Has one heat. Nickel-plated	500	22.50
8017	Three pts. Same as above except that it has three divisions of heat and regulating switch. Nickel-plated..	500	26.00

ELECTRIC IRONS.

TRAVELING IRONS.



This iron is thoroughly practical for the many minor uses one has for an Iron when living in hotels or traveling.

The Iron is Nickel-Plated, with Handle of light Wood, White Metal Stand mounted on a Slate Base. Size of Bottom, two and one-quarter inches broad, five and one-half inches long.

List No.		Price.
7967	Iron with Stand and 6 feet Cord with Plug, 200 Watts	$7.50

SEWING ROOM IRON.

Larger than above, and therefore has a wider range of usefulness. Suitable for light pressing. Nickel-Plated. Weight, four and one-half pounds.

List No.		Price.
13148	Iron with Stand and 6 feet Cord with Plug, 280 Watts	$8.00

HOUSEHOLD IRON.

This Iron is suitable for all light laundry requirements. Nickel-Plated. Size, three and five-eighths inches broad, six inches long; weight five pounds.

List No.		Price.
13149	Iron with Stand and Cord with Plug, 400 Watts	$10.00

LAUNDRY IRONS.

With Automatic Regulator Stand.

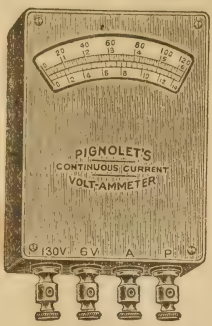
List No.		Watts.	Price.
13155	5½ lbs. with Reg.	450	$16.50
13156	7½ lbs. with Reg.	540	17.00

PERMANENT HORSESHOE MAGNETS.

List No.		Price.
4975	2 -inch, each	$ 0.10
4976	2½ " "	.12
4977	3 " "	.14
4978	3½ " "	.18
4979	4 " "	.28
4980	5 " "	.40
4981	6 " "	.70
4982	7 " "	1.00
4983	8 " "	1.40
4984	10 " "	3.00
4985	12 " "	5.50

PIGNOLET'S VOLTMETERS AND AMMETERS.

FOR DIRECT CURRENT ONLY.



These Instruments are of the permanent magnet type and have the high accuracy and equal scale divisions of this type. They are large enough for practical use and reliability, though small enough to be carried in the pocket.

Each is calibrated individually for horizontal position and its scale made by hand. A Mirror is provided to secure accuracy in making readings. The Magnets are of special steel from one of the best foreign makers, and are carefully treated to insure permanency. The Instruments are constructed in the same thorough manner as a large portable Instrument. They have Jewel Bearings and carefully ground and hardened steel Pivots; no pains being spared to make the Instruments durable and reliable.

The Voltmeters have a wide range of usefulness, for each Instrument can be used either as a Voltmeter or as an Ammeter.

The Dead Beat Attachment is operated by turning a Button on the Cover of the Instrument and sets the Pointer a little below the reading to be made so that it has but a short distance to move when the current is turned on. The pointers come to rest quickly, so that ordinarily the attachment is not needed. It is advantageous where many similar measurements are to be made, as in testing a number of Storage or Dry Cells.

VOLTMETERS.

List No.		Price.
8606	0 to 5 Volts, tenth Volt Division	$16.00
8607	0 to 10 " fifth " "	16.00
8608	0 to 20 " half " "	16.00
8609	0 to 50 " single " "	17.60
8610	0 to 100 " two " "	17.60
8611	0 to 130 " two " "	19.20
8626	0 to 260 " five " "	24.00

DOUBLE READING VOLTMETERS.

8612	0 to 5 Volts and 0 to 25 Volts	22.40
8613	0 to 50 " " 0 to 100 "	22.40
8614	0 to 6½ " in tenths and 0 to 130 Volts	24.00

STORAGE BATTERY VOLTMETER.

8615	0 to 3 Volts, twentieth Volt Divisions, with Dead Beat Attachment	16.80

AMMETERS.

8616	0 to 1 Amperes, .02 Ampere Divisions	16.00
8617	0 to 4 " tenth " "	16.00
8618	0 to 10 " fourth " "	16.00
8619	0 to 15 " half " "	16.00
8620	0 to 30 " single " " not for continuous use	16.00
8627	0 to 50 Amperes, single Ampere Divisions not for continuous use	20.80

VOLTAMMETERS.

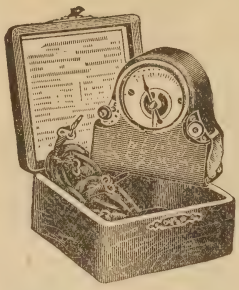
8621	0 to 5 Volts and 0 to 1, 4, 10, 15, or 30 Amperes.	20.80
8622	0 to 10 " " 0 to 1, 4, 10, 15, or 30 "	20.80
8623	0 to 20 " " 0 to 1, 4, 10, 15, or 30 "	20.80
8624	0 to 50 " " 0 to 1, 4, 10, 15, or 30 "	22.40
8628	0 to 100 " " 0 to 1, 4, 10, 15, or 30 "	22.40
8625	0 to 130 " " 0 to 1, 4, 10, 15, or 30 "	24 00
8629	0 to 260 " " 0 to 1, 4, 10, 15, or 30 "	28.80

THREE-READING VOLTAMMETERS.

8637	0 to 5 Volts and 0 to 25 Volts and 0 to 30 Am.	30.40
8638	0 to 5 " " 0 to 50 " " 0 to 30 "	30.40
8639	0 to 6½ " " 0 to 130 " " 0 to 30 "	30.40
	Leather Case, extra	1.75
	Dead Beat Attachment, fitted to any Instrument, extra	1.75

Finish is Nickel Plate.

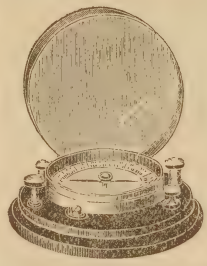
THE AVERY TESTING GALVANOMETER.



This is a Pocket Galvanometer of extreme sensitiveness, with a small Battery contained in the case, and is designed for testing circuits for leaks in place of the ordinary Testing Bell. The Needle shows a marked deflection through resistance of over 15000 Ohms, making it possible to detect much smaller leaks than a Testing Bell will show. It may also be used to measure resistances approximately, a table showing scale readings for different resistances being furnished with each Instrument. Size is 3x3x1⅛ inches. Two three-foot Cords included.

List No.		Price.
13395	Galvanometer, complete	$9.00
13396	Extra Battery	.30

POCKET GALVANOMETER.



About the size of an ordinary silver watch and has a close fitting Cover. Can be carried conveniently in the vest pocket. Polished Brass finish.

List No.		Price.
3334	Galvanometer	$6.00

MANHATTAN POLARITY INDICATOR.

Can be carried in the vest pocket.
Size, 3½x1 inch.
Will indicate instantly the negative and positive poles when connected in circuit.

The Nickel-Plated Shell will cover and protect the Glass Tube from injury while being carried in the pocket or tool bag. The neatest, most compact, durable and reliable Indicator made.

List No.		Price.
3320	For use with battery.....	$1.50
3321	For 50 to 600 Volts.....	1.50

WIRING SUPPLIES.

DOUBLE POINTED TACKS.

List No.		Price.
4767	Size 3/32x¼ inch, Coppered, per lb...	$0.30
4768	" ⅛x½ " " " ...	.25
4769	" 3/16x⅝ " " " ..	.25
4770	" 5/16x9/16 " " " ..	.25
4771	" ⅜x⅝ " " " ..	.25

LEATHER NAIL HEADS OR WASHERS.

A small Leather Ring or Washer for use with Porcelain Insulators and Cleats where it is desired to fasten them with nails instead of screws.

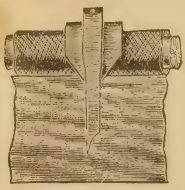
List No.		Price.
3952	Leather Heads, 1000 in package, per pkg.....	$0.50

BLAKE INSULATED STAPLE.

Designed for use on all low voltage circuits of interior wiring, such as telephone, telegraph, messenger call, annunciator and bell work. Have good driving qualities and Fibre Insulation on these Staples will not come off in driving.

List No.		Price.
4772	½-inch, 100 in package, per 1000	$5.80
4773	¾ " " " "	5.80
4774	⅝ " " " "	6.40
4775	⅞ " " " "	6.40

INSULATING SADDLE STAPLES.



List No.		Price, per 1000
4776	For Wire 5/100 in. in diam.	$1.50
4777	" 10/100 " " "	1.80
4778	" 15/100 " " "	2.20
4779	" 25/100 " " "	3.80
4780	" 40/100 " " "	9.00
4781	" 50/100 " " "	9.60

"PIG TAIL" HOOKS.

Vulcanized Rubber Insulated Screw Eyes.

List No.		Price.
3950	1½ inches long over all, adapted for carrying Lamp Cord along ceiling, per 100	$5.00

BRASS CLEATS FOR CAR WIRING.

List No.		Price.
15118	Brass Cleats for 3/16 in. diam. wire, per 1000	$7.14
15100	Brass Cleats for ⅜ in. diam. wire, per 1000	8.80
15103	Brass Cleats for ½ in. diam., wire, per 1000	11.00
15108	Brass Cleats for 11/16 in. diam. wire, per 1000	16.50
15102	Brass Corner Cleats for ⅜ in. diam. wire, per 1000	8.26
15104	Brass Corner Cleats for ½ in. diam. wire, per 1000	8.80
15116	Brass Corner Cleats for 11/16 in. diam. wire, per 1000	13 76

ANNUNCIATOR AND OFFICE WIRE.

Double Cotton, Wrapped, Waxed and Paraffined Annunciator Wire.

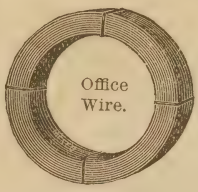
These wires are covered in various colors. Red, red and white, blue, blue and white, yellow, brown, are usually carried in stock. No 18 is the standard for bell work, etc. On spools about 8 lbs. each.

PLAIN COPPER.

Braided outside covering.

List No.		Price per lb.
3775	No. 16—105 feet to pound	$0 70
3776	" 18—155 "	.72
3778	" 20—239 "	.74

PATENT FINISH, DAMP-PROOF OFFICE WIRE IN COILS.



Braided outside covering in red, blue, red and white, blue and white.

List No.			Price. per lb.
3784	No.	14—52 ft. to lb...	$0.68
3785	"	16—71 " ...	.70
3786	"	18—98 " ..	.72

OFFICE OR INTERIOR CABLES.

Our Office Cables will be found very desirable for interior work, under conditions of perfect dryness, for which they are especially designed. They are composed of conductors of number 18 Annunciator wire, bunched with a paraffined heavy braided covering over all.

Any Size.....per lb. $0 80

Approximate number of feet per pound of Office Cables, No. 18 Conductor:

		Feet.			Feet.
2	Conductors	60	22	Conductors	6
4	"	26	24	"	5½
6	"	20	26	"	5
8	"	16	30	"	4½
10	"	13	34	"	4
12	"	11	38	"	3¾
14	"	10	40	"	3½
16	"	9	46	"	3
18	"	8	50	"	2¾
20	"	7	100	"	1½

Cables of 4, 6, 8, 10, 12, 15 and 18 Conductors carried in stock. Always state number of conductors wanted.

GAS FIXTURE WIRE.

WHITE OR YELLOW.

List No.				Price.
3792	No.	22	Triple Wound, cotton insulation, per lb....	$1.80
3793	"	24	" " " ...	2.00
9923	"	22	" with silk outside, " ...	3.60
9924	"	24	" " " ...	4.00

When ordering state color wanted.

COPPER MAGNET WIRES.

PRICE PER POUND.

SIZE B & S Gauge	COTTON Single Cov'd.	COTTON Double Cov'd	SILK Single Cov'd.	SILK Double Cov'd.	SIZE B & S Gauge	COTTON Single Cov'd.	COTTON Double Cov'd.	SILK Single Cov'd.	SILK Double Cov'd.
4-0 to 10	0.68	0.70	.....	.....	28	$1.84	$2.40	$2.76	$3.68
11 & 12	0.70	0.72	.....	.....	29	1.96	2.60	2.96	4.24
13 & 14	0.76	0.78	.....	.....	30	2.04	2.84	3.20	5.12
15 & 16	0.78	0.80	.....	.....	31	2.24	3.08	3.52	6.16
17 to 19	0.80	0.82	.....	.....	32	2.48	3.28	3.96	6.80
20	1.16	1.28	$1.76	$2.00	33	2.88	3.76	4.48	8.00
21	1.20	1.40	1.80	2.04	34	3.28	4.40	5.08	9.20
22	1.24	1.48	1.84	2.12	35	3.72	5.00	5.76	10.00
23	1.30	1.56	1.92	2.24	36	4.24	6.00	6.80	11.20
24	1.36	1.68	2.04	2.44	37	5.40	8.60	8.40	13.20
25	1.46	1.84	2.20	2.72	38	7.20	11.40	9.80	14.80
26	1.60	2.00	2.40	3.00	39	9.40	14.40	12.40	18.00
27	1.72	2.20	2.60	3.32	40	12.00	18.00	16.00	21.60

WEATHERPROOF INSULATED WIRES.

					Price per lb.
4-0 to 8	B.&S.,	Gauge	Trip.	Braid.	$0.60
9 and 10	"	"	"	"	.62
11 and 12	"	"	"	"	.64
13 and 14	"	"	"	"	.66
15 and 16	"	"	"	"	.68
17 and 18	"	"	"	"	.70
19 and 20	"	"	"	"	.72

Double braid 2 cents per lb. extra. Price for Stranded Wires on application.

Sizes 4-0 to 10, both Weatherproof and slow-burning, are furnished upon reels holding approximately 175 pounds. Sizes 12 to 20, in coils weighing from 12 to 15 pounds each. Reels and cases are charged upon shipment, and credited at same price when returned in good condition without expense to us.

Slow-burning, black outside 1c. advance.

Slow-burning, white outside 4 cents advance.

Twisted Pairs 2 cents per pound advance over the price of the wires composing the pair.

RUBBER COVERED WIRES AND CABLES.

SOLID CONDUCTOR.

STRANDED CONDUCTOR.

RUBBER COVERED WIRES AND CABLES.
INSULATION FOR 600 VOLTS.
PRICES PER 1,000 FEET.

SOLID		SIZE	STRAND		CIRCULAR MIL CABLES	
1 Braid	2 Braids		1 Braid	2 Braids	Size	2 Braids
$585 00	$585 00	0000	$585 00	$585 00	2,000,000	$4,730 00
482 00	482 00	000	482 00	482 00	1,750,000	4,167 00
396 00	396 00	00	396 00	396 00	1,500,000	3,607 00
290 00	290 00	0	327 00	327 00	1,250,000	3,067 00
229 00	246 00	1	255 00	272 00	1,000,000	2,458 00
175 00	188 00	2	194 00	207 00	950,000	2,345 00
142 00	154 00	3	159 00	171 00	900,000	2,229 00
116 20	127 20	4	133 00	144 00	850,000	2,117 00
97 40	107 40	5	110 90	120 90	800,000	2,001 00
81 10	90 10	6	94 40	103 40	750,000	1,886 00
51 60	59 60	8	60 90	68 90	700,000	1,772 00
36 80	43 80	10	43 30	50 30	650,000	1,657 00
26 80	32 80	12	32 30	38 30	600,000	1,545 00
20 30	25 30	14	24 60	29 60	550,000	1,431 00
15 80	19 80	16	20 30	24 30	500,000	1,291 00
13 10	16 90	18	16 60	20 40	450,000	1,172 00
10 70	14 10	20	13 20	16 60	400,000	1,054 00
					350,000	936 00
					300,000	818 00
					250,000	701 00
					225,000	644 00

Solid Duplex	
8	$118 20
10	86 40
12	64 10
14	49 10

THIN FIXTURE WIRE		
Solid	Size	Strand
$17 30	14	$22 40
14 30	16	18 30
11 10	18	14 60
10 40	19	13 40
9 70	20	12 20
8 40	22	11 00

LEAD ENCASED WIRES.

For Underground or Aerial Use. For Bells or Telephones.

No. 18 B. & S. 3-Wire Clover Leaf.

List No.		Price.
3795	1 Conductor No. 18 B. & S. per 100 ft...	$ 6.00
3796	2 " " " " ..	8.00
3797	3 " " " " ..	9.00
3798	4 " " " " ..	10.00
3799	5 " " " " ..	11.00

Prices for larger Cables on application.

Prices on Lighting Cables on Application.

RUBBER INSULATED TELEPHONE AND TELEGRAPH CONDUCTORS.

Prices on Twisted Pairs.

B & S Gauge	Finish	Over Rubber	Price per 1000 feet
14	Braided	11/64 inch	$45.00
14	"	5/32 "	40.80
16	"	5/32 "	39.00
16	"	9/64 "	34 40
16	"	4/32 "	29.80
18	"	4/32 "	28.60
18	"	7/64 "	24.20
19	"	7/64 "	23.80
19	"	3/32 "	19.40
20 or 22	"	3/32 "	19 00
19	Plain	3/32 "	17.20
20 or 22	"	3/32 "	16.80

No deductions will be made for lighter insulations than those listed. Single conductors carry one-half the price of Twisted Pairs. Triple conductors carry one and one-half times the price of Twisted Pairs. Four conductors carry twice the price of Twisted Pairs.

TWO CONDUCTOR JUTE OR STAGE CABLE.

Each Conductor of this Cable is composed of fine Strands, and is insulated with 3/64 Rubber and Braided Conductors, then twisted and filled with Jute to make round, and a Cotton Braid well saturated, over all. This cable is used in breweries, mines and slaughter-houses where a cable that will stand rough usage and dampness is necessary and is approved by Board of Fire Underwriters.

List No.	Price.
No. 2, B. & S.	$550 00
" 3, "	457.50
" 4, "	387.50
" 5, "	327.30
" 6, "	281.00
" 8, "	192.30
" 10, "	143.30
" 12, "	110.80
" 14, "	86.50

FLEXIBLE INCANDESCENT LAMP CORD.

For Drop Lights, Brackets, Portables, Etc.

Conductor composed of Fine Wires, Insulated with Rubber and Braided Silk or Cotton. Two Conductors, twisted, covered with Silk or Cotton Braid, in different colors or combination of colors.

NEW CODE 1/32 RUBBER.

List No.						Price.
			Cotton Covered.			
3815	No.	22,	per	1000	feet	$21.00
3816	"	20,	"	"	"	26.50
3817	"	18,	"	"	"	31.80
3818	"	16,	"	"	"	42.80
3819	"	14,	"	"	"	64.30
3820	"	12,	"	"	"	100.50
3821	"	10,	"	"	"	155.00
			Silk Covered.			
3822	No.	22,	per	1000	feet	34.80
3823	"	20,	"	"	"	40.30
3824	"	18,	"	"	"	48 00
3825	"	16,	"	"	"	60.30
3826	"	14,	"	"	"	85.50
3827	"	12,	"	"	"	123.00
3828	"	10,	"	"	"	186.30

OLD CODE 1/64 RUBBER.

List No.						Price.
			Cotton Covered.			
3830	No.	22,	per	1000	feet	$21.00
3831	"	20,	"	"	"	26.50
3832	"	18,	"	"	"	31.80
3833	"	16,	"	"	"	42.80
3834	"	14,	"	"	"	64 30
3835	"	12,	"	"	"	100 50
3836	"	10,	"	"	"	155.00
			Silk Covered.			
3837	No.	22,	per	1000	feet	34.80
3838	"	20,	"	"	"	40.30
3839	"	18,	"	"	"	48.00
3840	"	16,	"	"	"	60.30
3841	"	14,	"	"	"	85.50
3842	"	12,	"	"	"	123.00
3843	"	10,	"	"	"	186.30

REINFORCED SHOW WINDOW CORD.

Lamp Cord with extra Rubber Covering over Regular Braid, and Cotton or Silk Braid over all. Approved by Board of Fire Underwriters.

List No.						Price.
			Cotton Covered.			
3845	No.	20 B. & S.,	per	1000	feet	50.30
3846	"	18	"	"	"	59.30
3847	"	16	"	"	"	74.00
3848	"	14	"	"	"	95.50
3849	"	12	"	"	"	135.50
3856	"	10	"	"	"	186.30
			Old Code. Cotton Covered.			
13440	No.	20,	per	1000	feet	50.30
13441	"	18,	"	"	"	59.30
13442	"	16,	"	"	"	74.00
13443	"	14,	"	"	"	95 50
13444	"	12,	"	"	"	135.50
13445	"	10,	"	"	"	186.30
List No.			**Silk Covered.**			Price.
3850	No.	20 B. & S.,	per	1000	feet	75.30
3851	"	18	"	"	"	86 80
3852	"	16	"	"	"	104.00
3853	"	14	"	"	"	136.80
3854	"	12	"	"	"	185.50
3855	"	10	"	"	"	248.80
			Old Code. Silk Covered.			
13446	No.	20,	per	1000	feet	75 30
13447	"	18,	"	"	"	86.80
13448	"	16,	"	"	"	104.00
13449	"	14,	"	"	"	136.80
18450		12,	"	"	"	185 50
13451	"	10,	"	"	"	248.80

ELEVATOR CABLES FOR ANNUNCIATORS.

This type of Cable is designed for connecting the movable elevator car with signal buttons upon the different floors, and is constructed with the greatest amount of strength and flexibility.

Price, 3 cents per conductor per foot.

ELEVATOR CABLES FOR LIGHTING PURPOSES.

These Cables are fire and waterproof and are made with the two Copper Conductors flexible and with two Steel Lateral Supports. Approved by Board of Fire Underwriters.

List No.		Price.
3805	No. 14 Elevator Cable, per 1000 feet	$165.80

GALVANIZED TELEGRAPH AND TELEPHONE WIRE.

One-half mile to coil. Quotations are made for full coils; if smaller quantities, add double the price:

Size No.	8.	Weight per mile,	380 lbs	See Discount Sheet.
"	10.	" "	260 "	
"	12.	" "	165 "	
"	14.	" "	96 "	

WEATHERPROOF INSULATED GALVANIZED IRON TELEPHONE AND TELEGRAPH WIRE.

Prices on application.

CANVASITE CORD.

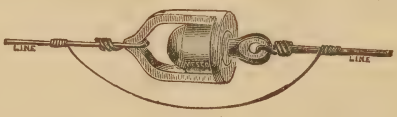
For Connections to Portable Lights, Motors, Fans, Etc.

Canvasite Cord is made of two Twisted Conductors, each composed of fine Copper Wires, Cotton Wound and heavily covered with Rubber. Around the twisted Conductors is woven a heavy Canvas Braid, producing a Cord of great strength and durability.

List No.			Price.
9925	No. 18 B. & S., Per 1000 feet		$51.00
9926	" 16 " " " "		60 80
9927	" 14 " " " "		74.00
9928	" 12 " " " "		95 80
9938	" 10 " " " "		125.80

THE ANTI-HUM.

Humming of Telegraph Wires easily and cheaply remedied.

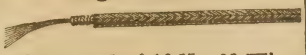


List No.		Price.
4793	Anti-Hum	$0.24

FLEXIBLE CONDUCTING CORDS.

Copper Conducting Cords.

Single Conductor.

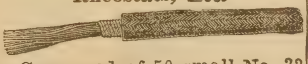


Composed of 16 No. 33 Wires with Green or Red Silk Braid Cover.
List No. Price.
3865 Per yard $0.12

Composed of 16 No. 31 Wires with Green or Red Silk Braid Cover.
List No. Price.
3866 Per yard $0.14

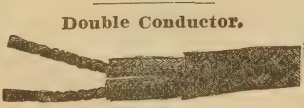
Composed of 4 No. 32 Wires wound Spirally on a small Cotton Centre with outer Cover of Green Cotton Braid.
List No. Price.
3873 Per yard $0.08

Extra Heavy for Test Sets, Rheostats, Etc.



Composed of 50 small No. 32 Wires with Green and Yellow Silk Braid Cover.
List No. Price.
3875 Per yard $0.42

Double Conductor.

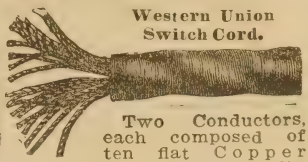


Two Conductors, each have 5 No. 30 Wires with Cotton Braid laid together flat with outer Braid of Green Silk.
List No. Price.
3867 Per yard $0.14

Two Conductors, each have 16 No. 33 Wires with Cotton Braid laid together flat with outer Braid of Green or Red Silk.
List No. Price.
3868 Per yard $0.24

Two Conductors, each have 30 No. 33 Wires with Cotton Braid laid together flat with outer Braid of Green or Red Silk.
List No. Price.
3869 Per yard $0.36

Western Union Switch Cord.



Two Conductors, each composed of ten flat Copper Wires, each wound spirally on a Cotton Thread, laid together and each Conductor heavily wrapped in Silk and covered with Green Silk.
List No. Price.
3874 Per yard $0.60

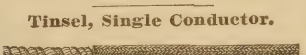
Push Button Cord.

Two Conductors, each have 16 No. 33 Wires with Lateral Cotton Threads and Silk Wrap, twisted together with a third Strand of the same, but not containing the Wires. Covered with Green, Red or Blue Silk.
List No. Price.
3877 Per yard $0.24

Triple Conductor.

Three Conductors, each have 5 No. 30 Wires with Cotton Braid laid together and with cover of Green Silk.
List No. Price.
3885 Per yard $0.24

Tinsel, Single Conductor.



Composed of 24 Threads of Gilt Tinsel, covered with Green or Red Silk Braid.
List No. Price.
3880 Per yard $0.18

Medical Battery Cord.

One Conductor, 18 Strands of Gilt Tinsel and 4 No. 36 Copper Wires twisted together with Cotton and Worsted Braid, Red or Green.
List No. Price.
3886 Per yard $0.18

One Conductor, 18 Strands of Gilt Tinsel and 3 No. 36 Copper Wires twisted together with Red or Green Worsted Braid.
List No. Price.
3878 Per yard $0.10

Two Conductors, each have 24 Threads of Gilt Tinsel, laid flat with Red or Green Silk outer Braid.
List No. Price.
3881 Per yard $0.30

U. S. WIREMAN'S CALCULATING GAUGE.

☞ On this side set the required number of amperes on small circle opposite the required number of feet on the the large circle, then set the small pointer at the required voltage and loss.

And on this side ☞ the large pointer will indicate the required size of wire in Brown & Sharpe's gauge, and will also indicate the safe carrying capacity.

Made of the Best Material, Nickel-plated, Accurately Fitted.

List No.		Price.
4799	Each	$2.00

MICROMETER CALIPER.

This caliper measures from .001 to 1 inch.

List No.		Price.
4805		$9.00
4806	In Morocco case	10.00

ELECTRICIANS' WIRE GAUGE.

This Gauge contains 25 sizes, from No. 1 to No. 25, which embraces all that is needed in the general run of work, and its size, which is one inch wide and four inches long, makes it convenient for the pocket. The Gauge is hardened, and carefully and accurately made.

List No.		Price.
4817	Wire Gauge, each	$2.00

STARRETT'S HIGH SPEED INDICATORS.

This Indicator may be run at the highest speed required without heating, and this on account of the frictionless bearing against which the inner end of the spindle revolves.

List No.		Price.
4813	In Pasteboard box	$2.00
4814	In Leatherette case	3.00

BATTERY MOTORS FOR FANS OR POWER.

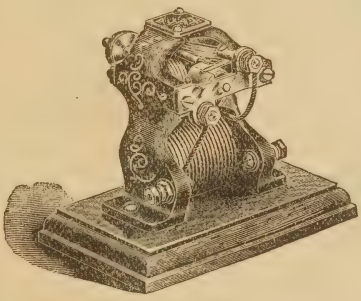
THE NEW GEM BATTERY MOTOR.

List No. 3580

The improvements on the New Gem are Brush Adjusters, permitting a delicate adjustment and independent connections. Finished in black enamel, and mounted on polished wood stand. Used for operating small mechanical toys and advertising devices; runs on a single cell dry battery and is a very powerful motor.

List No.		Price. Each
3580	As per cut.	$1.50
3581	With 3½-in. Fan	1.80

AJAX PORTER MOTOR.

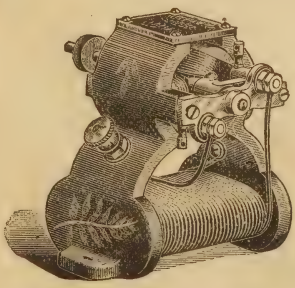


List No. 3575

Will run on one cell of battery. Black enamel with nickel trimmings. Weight, one pound.

List No.		Price.
3575	Without fan	$2.25
3576	With 4¾-in. Fan	2.75

STANDARD PORTER MOTOR.



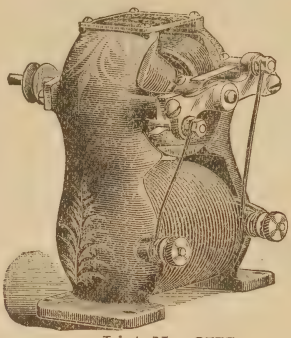
List No. 3582

This size will run on one cell of battery. For more power use two. Size, 3½ inches square. Weight, 1½ lbs. Black enamel with nickel trimmings.

List No.		Price.
3582	Complete, without Fan	$4.50
3583	Complete, with 4¾ inch Fan.	5.00

SMALL DYNAMOS AND MOTORS.

STANDARD PORTER MOTOR.

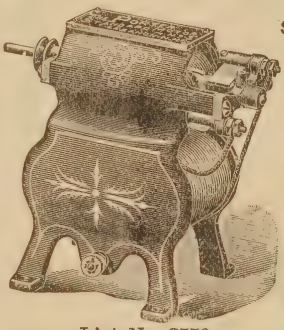


List No. 3577.

This Motor is used to operate slot machines and small devices. Small and powerful. Weight, 3½ pounds. Width of Base, 3½ inches. Height, 4⅜ inches. Length of Shaft, 3½ inches. 6 Volts. 2 Amperes. 2400 R. P. M., with average load.

List No.		Price.
3577	Complete, without Fan	$9.00
3578	Complete, for series	10.25
3579	6-inch Fan, extra.	1.50

STANDARD PORTER MOTOR.

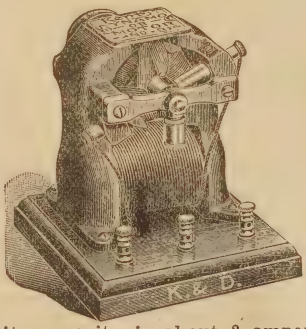


List No. 3550

This Motor is suitable for running small mechanical devices requiring a light power. It is finished in Black Enamel and decorated. Clears an 8-inch Fan. Weight, 6½ pounds. Length of Shaft, 5½ inches. Height, 5½ inches. Width, 4 inches. 6 Volts. 1.6 Amperes. 1800 R. P. M., with average load.

List No.		Price.
3550	Complete, without Fan.....	$13.50
3551	Complete, for series	15.00
3552	8-inch Fan, extra	1.50

KENT DYNAMO OR MOTOR.

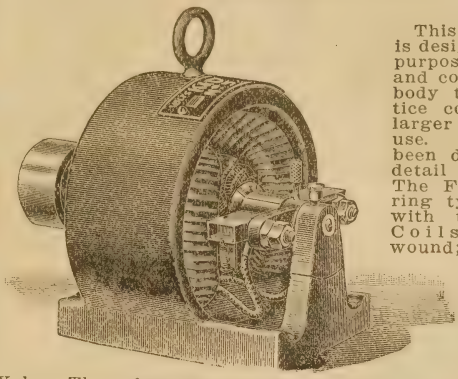


This Apparatus is built to run either as a Dynamo or Motor, the only difference being in the Binding Posts used, and the direction in which the Armature runs; it is fitted with Drum Armature and has a Two Score Pulley and Self-Feeding Woven Wire Brushes. Finished in Black Enamel and Nickel. As a motor it will do any work requiring less power than a sewing machine, and as a Dynamo it will light from 1 to 10, 3 Candle Power Lamps, as a Dynamo from 2 to 12 Volts, its capacity is about 2 amperes. As a motor on a 6 Volt circuit it consumes 1.5 amperes. Speed, 1800 R. P. M. with average load. Weight, 8 pounds. Length of shaft, 5½ inches. Height, 6 inches. Base 5x5½ inches.

List No.		Price.
13478	Complete	$15.00

SMALL DYNAMOS AND MOTORS.

KENDAVIS MOTOR.



This Battery Motor is designed for power purposes. Its design and construction embody the best practice common to the larger machines in use. Attention has been devoted to the detail of each part. The Field is of the ring type cast solid with the Frame; Coils are form wound; 6 Section Laminated Drum Armature; Copper Commutator; improved Brush Holders and Adjustable Yoke. These features combined, result in a very satisfactory Motor. Finished in Black Enamel. 6 Volts. 2 Amperes. Speed, 1800 R. P. M., with average load. Length of shaft, 6 inches. Width, 4¾ inches. Height, 6 inches. Diameter of Pulley, 1½ inches; width, ¾ inch.

List No.		Price.
1017	Battery Motor, complete	$12.00

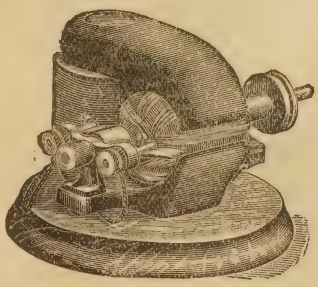
KENDAVIS GENERATOR.

This Generator is identical in design with Motor illustrated above, but is shunt wound to obtain the best results as a Generator. It is particularly adapted for experimental purposes requiring a small amount of current. It will light brilliantly 12 6-Volt 3-Candle Power Lamps. As an Electro-Plating machine it will operate a 5-gallon solution successfully. There are also many other uses to which this machine may be applied.

The Brush-Holders are of an improved type and brushes require very little attention; the Armature is Slot-Wound and Laminated. In fact, the most desirable and efficient features common to the larger Generators are retained in this machine. It has an output of 36 Watts. Finish, black enamel. Speed, 1800 R. P. M. 6 Volts. 6 Amperes. Length of shaft, 6 inches. Width, 4¾ inches. Height, 5½ inches. Diameter of pulley, 1½ inches; width, ¾ inch.

List No.		Price.
1018	Generator, complete	$12.00

"THE MIDGET" DYNAMO OR MOTOR.



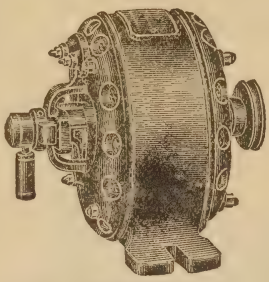
Weight, 4¾ lbs. Speed, about 3500. Output, 6 watts. Wound for 4, 8 or 10 volts.

The Midget is a substantial little machine. It will run equally well as a motor or dynamo. It may be run as a motor by the current from a small dynamo, or from two or three cells of battery. As a dynamo, it has an output of about 10 watts, and will readily light one of our 6 c. p. miniature lamps. It has a grooved pulley and may be run by the hand power if desired.

List No. **3772**..Price, $6.50

SMALL DIRECT CURRENT MOTORS.

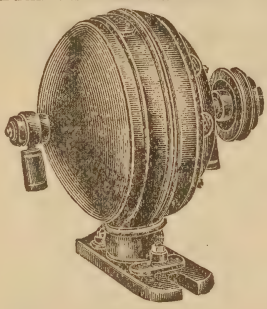
1/10 HORSE POWER.



This Motor is adapted to the operation of jeweler's lathes, buffs, small grinders, etc. Black Japan Finish, Nickel Trimmings.

List No.		Price.
27683	Winding Shunt, 115 Volts. Speed 1500	$40.80
27684	Winding Shunt. 230 Volts. Speed 1500	43.20
27685	Winding Series, 115 Volts. Speed 1500	40.80
27686	Winding Series, 230 Volts. Speed 1500	43.20

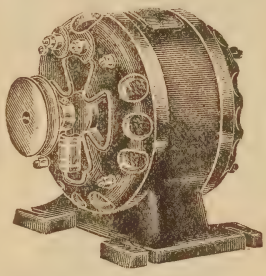
1/15 HORSE POWER.



List No.		Price.
23520	Winding Shunt, 115 Volts. Speed 1800	33.60
26360	Winding Series, 115 Volts. Speed 2200	33.60
31798	Winding Series, 230 Volts. Speed 2200	36.00

SMALL ALTERNATING CURRENT MOTORS.

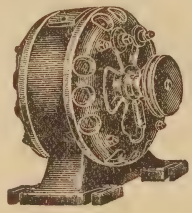
1/10 HORSE POWER. SINGLE PHASE.



These Motors are designed to operate automatic musical instruments, and are also suitable for any light power purposes. This Motor is provided with a Centrifugal Clutch for starting. It is a simple arrangement within the Armature which grips the Shaft when a predetermined speed has been reached by the Armature. The standard finish is Black Japan with Nickel Trimmings.

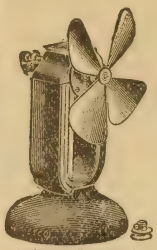
List No.						Price.
32063	60	Cycles.	110	Volts.	Speed 1800	$56.40
32065	60	"	220	"	" 1800	60.00
32062	125	"	110	"	" 1875	56.40
32064	125	"	220	"	" 1875	60.00

1/15 HORSE POWER.



List No.		Price.
29560	60 Cycles. 110 Volts. Speed 1800	45.60
31799	60 Cycles. 220 Volts. Speed 1800	48.00
29561	125 Cycles. 110 Volts. Speed 1875	45.60
31806	125 Cycles. 220 Volts. Speed 1875	48.00

MANHATTAN BATTERY FAN MOTORS.



List No. **3592.**

Motor No. 3592 uses less battery and gives a higher speed than any battery motor on the market.

Can be operated on open circuit Batteries as long as ordinary motors will run with acid cells.

Has been run with our Mesco Dry Batteries at a cost of three-fourths of a cent per hour.

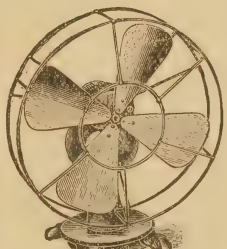
Three cells of battery will give it a speed of over 1,500 revolutions per minute.

Weighs 5 lbs. Fan 5 inches in diameter. One fan and one pulley furnished with each motor.

The best and cheapest small battery motor ever made.

List No.		Price.
3592	Complete with Fan and Pulley	$2.00
3593	Motor without Fan	1.80

A HIGH-CLASS MOTOR AT A MODERATE PRICE.



List No. **3590.**

This motor consumes less current than any motor of equal size on the market.

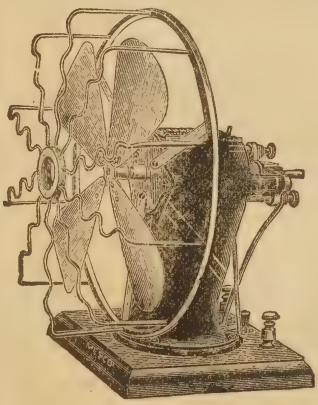
The fields of this motor are permanent magnets. No wire used in its construction, except in winding of armature.

Gives a good breeze when run on 4 cells of Type "S" Edison Primary Battery.

Total weight, 7 lbs.; height of motor 9 inches. Total height of motor and fan, 13 in.

List No.		Price.
3590	With 9-inch Fan	$ 6.00
3604	With 9-inch Fan, 4 cells Edison's Primary Battery, in varnished case with switch and 3 yards No. 16 conduct'g cord	30.00

THE IDEAL FAN MOTOR OUTFIT.



List No. **3595.**

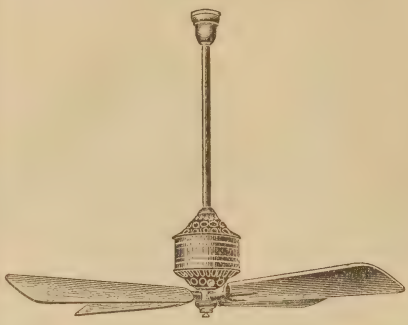
To satisfy the demand for a strictly high-grade battery motor, we are making the No. **3595,** which we recommend as the best battery motor on the market.

It is carefully made in every detail and will generate a satisfactory breeze for office desk, soda water counter, dining-room table, sick-room or any place where a ten-foot breeze will suffice. It can also be used to operate family sewing machines, small dental and jeweler's lathes, and other purposes not requiring over one-twentieth horse power.

List No.		Price.
3595	As Illustrated.	$6.50

Complete outfit consisting of our No. **3595** Motor with 9-inch Fan and Guard, Battery Cords, 4 Edison Primary cells, type "S." Porcelain Jars in polished oak box, 25 inches long, 8 inches wide, 15 inches high. With charge to run motor upwards of 150 hours.

List No.		Price.
3596	Complete outfit	$30.00



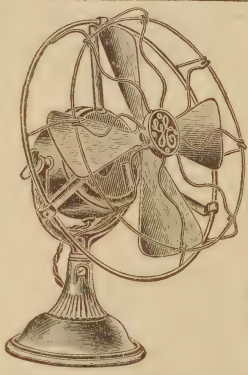
Diehl Ceiling Fans.

Direct Current,

Designed on the same lines as the Desk Fan compact and symetrical appearance. Sells at a lower price than the standard fan and is recommended to all users with entire confidence in the results obtained. Furnished complete with 4 blades, nickel-plated blade holders.

Unless otherwise specified, stems for 12 foot ceiling will be sent.

List No.	Finish.	Voltage.	Price.
8953	Japan	110	$36 00
8954	"	170	37.20
8955	"	220	39.60
8956	"	250	42.00
8957	"	500	54.00



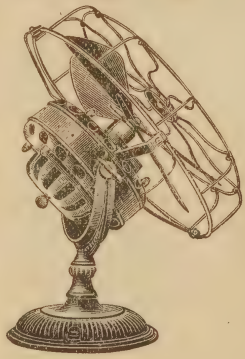
G. E. DIRECT CURRENT DESK FANS.

These Fans are efficient, durable and economical in current consumption; they run quietly, require practically no attention and never give cause for complaint. All are furnished with switches giving three speeds: 900, 1,200 and 1,500 R. P. M. Frame is finished in Black Enamel with Lacquered Brass Fan, Guard and Trimmings.

List No.				Price.
13542	115 Volts	12	Inch	$18 00
13543	230 "	12	"	20.00
13547	115 "	16	"	22.00
13548	230 "	16	"	24.00

G. E. ALTERNATING CURRENT DESK FANS.

The G. E. Alternating Fans are universally recognized as the leaders because of their superior electrical and mechanical design, higher efficiency and greater durability than any other alternating current motor on the market.



Swivel and Trunnion 12-inch Fan.

List No.	Cycles.	Volts.	Price.
13518	60	100-115	$26.00
13519	60	190-220	28.00
13520	125-140	100-115	26.00
13521	125-140	190-220	28.00

Swivel and Trunnion 16-inch Fan.

13526	60	100-115	$31.00
13527	60	190-220	33.00
13528	125-140	100-115	31.00
13529	125-140	190-220	33 00

GLASS INSULATORS.

No. 3912
Cut ¼ Size.

No. 3911
Cut ¼ Size.

No. 3910
Cut ¼ Size.

No. 3914
Cut ¼ Size.

No. 3917
Cut ¼ Size

No. 3919
Cut ¼ Size.

No. 3923
Cut ¼ Size.

No. 3922
Cut ¼ Size.

No. 3915
Cut ¼ Size.

No. 3913
Cut ¼ Size.

No. 3924
Cut ¼ Size.

No. 3916
Cut ¼ Size.

No. 3920
Diam. 3½ in.

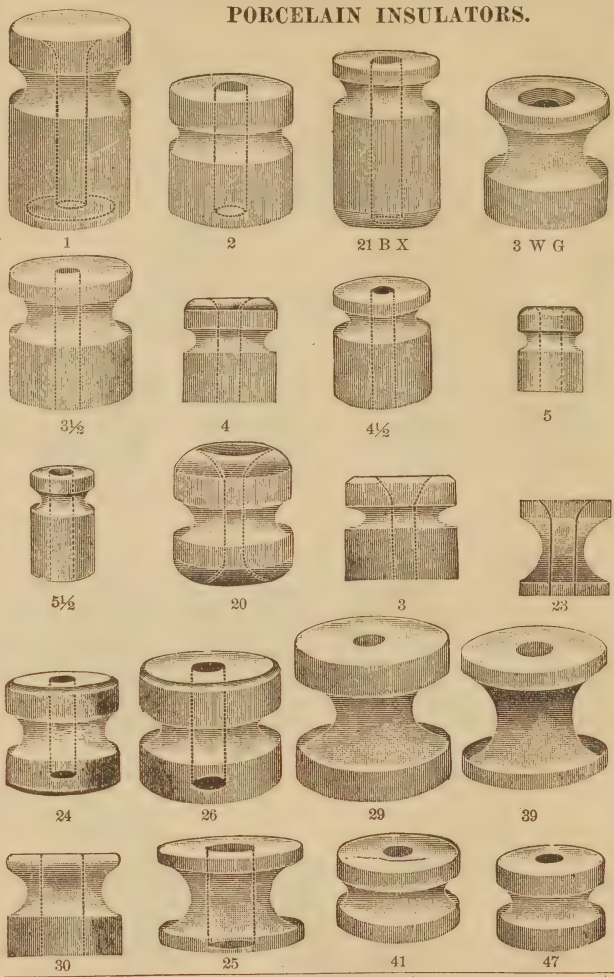
No. 3921
Diam. 4 in.

No. 3908
Diam. 4½ in.

No. 3909
Diam. 6 in.

List No.			Price.
3908	Locke, Triple Petticoat, High Potential	Per 100,	$11 00
3909	Locke, Large Triple Petticoat, High Potential	"	15.00
3910	Western Union Pattern	"	7.00
3911	Deep Groove Pattern	"	6.00
3912	Regular Standard Pattern	"	5.50
3913	Deep Groove, Double Petticoat	"	7.00
3914	Long Distance Pattern	"	5.50
3915	Double Petticoat, Regular Standard	"	7.00
3916	Pony, Double Petticoat	"	4.50
3917	Pony Insulator	"	3 00
3919	Pony, Double Groove	"	3.00
3920	Cable Insulator (Takes up to one-inch cable)	"	12 00
3921	Locke Transportation Insulator	"	14 00
3922	Brown, Deep Groove	"	8.50
3923	Brown, Pony	"	8 00
3924	Extra Deep Groove, Double Petticoat	"	7.00

PORCELAIN INSULATORS.



List No.	Height in.	Hole in.	Diameter in.	Groove in.	Price per M
1	3	7/16	2 1/8	3/4	$88.00
2	2	1/2	2	1/2	41.34
3	1 3/4	7/16	2	7/16	34.68
3 W G	1 3/4	7/16	2	3/4	34.68
3½	2	7/16	2	7/16	34.68
4	1 11/16	3/8	1 1/2	3/8	12.50
4½	1 7/8	3/8	1 1/2	7/16	14 00
5	1¼	¼	1	5/16	8 25
5½	1 9/16	¼	1	5/16	9.00
20	2	3/8	2	5/8	42 68
21 B X	2 7/8	1/2	2	9/16	106.68
23	1 1/2	3/8	1 1/2	1	29.34
24	1 3/4	7/16	1 7/8	5/8	41.34
25	1 1/2	11/16	2 1/2	1 1/16	73 34
26	2	5/8	2 1/4	9/16	74.68
29	2 3/8	1/2	2 1/2	1 3/8	100.00
30	1 11/16	11/16	1 15/16	3/4	41.34
39	1 3/4	3/4	2 1/2	1 3/8	73 34
41	1 1/4	3/8	2	1/2	44.00
47	1 1/4	7/16	1 3/4	7/16	32.00

PORCELAIN KNOBS.

Designed for supporting single conductors, each knob being formed with slots to accommodate any one of four sizes of wire.

List No.	Description	Package Quantity	Price Per 1000
9419	Complete knob for single wire up to ⅝ inch diameter, holding wire 1 inch from wall.....	500	$20.00
9420	Complete knob for single wire up to ⅝ inch diameter, holding wire 1 inch from wall.....	500	35.00

S—5½ Split knob, height 1¾ in . diameter 1 11-16 in, Hole ¼ in....$16.00

B. & D. ONE-WIRE CLEATS.

List No.	Size R. C. Wire B. & S.	Size Hole.	Price Per 1000
345	14 to 6	⅛ in. to ⅜ in...	$ 36.68
346	10 to 2	3/16 in. to 7/16 in...	50.00
347	2 to 0	⅜ in. to ½ in ..	60.00
348	0 to 3/0	½ in. to ⅝ in ..	72 00
349	3/ 0 to 200,000 C. M.	9/16 in. to ¾ in...	95.00
350	200.000 C. M. to 500.000 C. M.	¾ in. to 1 in...	120.00
351	500.000 C. M. to 1,000,000 C. M.	1 in. to 1⅜ in...	160.00
352	1,000,000 C M. 2,000,000 C. M.	1 17/16 in. to 1 15/16 in.	400.00

Bases are full one inch from wire to bottom of cleat.

STANDARD TWO AND THREE-WIRE CLEATS.

Height, 1⅛ inch — Length, 3⅜ inches.
Width, ⅝ inch. — Groove, $\frac{3}{16}$ inch.
Standard package, 1000.

List No		Price.
3930	Two wire, glazed per 1000.....	$26 00
3931	" unglazed, "	20 00
3933	Three wire glazed, "	26.00
3934	" unglazed "	20.00

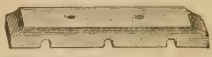
PORCELAIN TUBES.

Tube dimensions conform to the rules of the Underwriters Board

Price Per 100.

Length of Inches Under Head	5-16 Hole, 9-16 Outside Diameter	⅜ Hole, 11-16 Outside Diameter	½ Hole, 13-16 Outside Diameter	⅝ Hole, 15-16 Outside Diameter	¾ Hole, 13-16 Outside Diameter	1 Hole, 1 7-16 Outside Diameter	1¼ Hole, 1 13-16 Outside Diameter	1½ Hole, 2 3-16 Outside Diameter	1¾ Hole, 2 9-16 Outside Diameter
2½	.58	.62	.92	1.02	1.34	1.99	4 90	6.24	7.94
3	.62	.72	1.02	1.12	1.44	2.10	5.52	6 96	8.82
4	.68	.78	1.12	1.38	1.56	2.60	6 24	7 68	9.58
5	1.22	1.44	1.68	2.04	2.24	3.31	7.24	10.12	13.66
6	1.56	1.88	2 16	2.48	2.80	3.74	7.68	12 48	18.14
8	1.44	3.36	3.84	4.32	4.80	6.72	9.60	15 56	23.24
10	3.84	4.32	4.80	5.76	6.72	7.68	12.48	18.24	26.40
12	5.76	6 24	6.72	7.68	8 64	10.76	18.24	27.68	40.84
14	6.72	7.28	8.64	9.60	9.60	11.52	21.12	32.64	48.56
16	7.68	8.64	9.60	11.52	12.48	14.40	24.96	36.48	52.80
18	8.64	9.60	11.52	13.44	14.40	16.32	28.80	40.88	63.44
20	9.60	10.56	12 48	14 40	15.36	18.24	31.68	49.12	70.46

WOOD CLEATS.



Furnished in Ash, Oak or Walnut.

List No.		Price
3960	1-Wire (Size of Slot, ¼ inch)	per 1000, $5.00
3961	1 " " " ⅜ "	" 6.00
365	2-Wire (Size of Slot, ⅛ inch)	" 4.00
366	3 " " " "	" 5.00
367	4 " " " "	" 6.00
368	6 " " " "	" 8.00
372	2-Wire (Size of Slot 3/16 inch)	" 5.00
373	3 " " " "	" 6.00
374	4 " " " "	" 7 00
375	6 " " " "	" 9.00

Price for larger Slots on application.
Unless specified, we send either countersunk or plain holes according to stock.

WOOD MOULDING AND CAPPING.

Prices Per 1000 Feet.

List No.	Size of Groove.	Number of Groove.	Size of Wire B. & S. Gauge. Solid.	Stranded.	Painted.	Plain.
A 2	¼ inch	2	14 to 12	.....	$ 32.00	$ 22 00
A 4	5/16 "	2	10 to 8	8	40.00	29.00
A 6	7/16 "	2	9 to 4	5 and 6	49.00	36.00
A 8	9/16 "	2	3 to 0	4 to 2	104.00	85.00
A 9	¾ "	2	.....	0 to 3/0	140.00	111.00
A10	⅞ "	2	.....	4/0 to 250	182.00	140.00
A11	1 "	2	.....	500,000	220.00	182 00
A12	1¼ "	2	.....	.....	250.00	210.00
B 2	¼ "	3	14 to 12	.....	46.00	34.00
B 4	5/16 "	3	10 to 8	8	54.00	42.00
B 6	7/16 "	3	6 to 4	6 and 5	72.00	56.00
B 8	9/16 "	3	3 to 2	4 to 2	140.00	111.00
B 9	¾ "	3	.....	1 to 3/0	195.00	154.00

Prices on hard wood and special moulding on application.

HARD SHEET FIBRE—RED.

When no color is specified in orders we send Red.
Sheets measure about 42 x 66 inches.

List No.	Thickness.	Price Per lb.	List No.	Thickness.	Price Per lb.
9246	1¼ inch	$0.65	9254	⅜ inch	$0.70
9247	1 "	1 00	9255	5/16 "	.70
9248	⅞ "	1 00	9256	¼ "	.70
9249	¾ "	1.00	9257	3/16 "	.70
9250	⅝ "	.90	9258	⅛ "	.70
9251	9/16 "	.90	9259	1/16 "	.70
9252	½ "	70	9260	1/32 "	.60
9253	7/16 "	70	9261	1/64 "	.70

Black Fibre 5 cents per lb. extra net.

HARD FIBRE RODS.—RED.

List No.	Diam.	Price Per ft.	List No.	Diam.	Price Per ft.
9262	3/32 inch	$0.30	9271	⅝ inch	$0.70
9263	⅛ "	.30	9272	11/16 "	.84
9264	3/16 "	.30	9273	¾ "	1 00
9265	¼ "	.30	9274	⅞ "	1 20
9266	5/16 "	30	9275	1 "	1.40
9267	⅜ "	.36	9276	1⅛ "	2 00
9268	7/16 "	.44	9277	1¼ "	2 50
9269	½ "	.52	9278	1⅜ "	4 10
9270	9/16 "	.60	9279	1½ "	6.00

Black Rods 10 per cent. extra net.
Special prices for quantities.

SHEET ASBESTOS.

Fireproof lining for cut-out boxes, etc.
Supplied in sheets one yard wide, any desired length.

List No.		Price	List No.		Price
9290	1/32 inch thick...per lb..	$0.15	9293	3/16 inch thick...per lb..	$0.20
9291	1/16 " " ... "	.15	9294	¼ " " ... "	.20
9292	⅛ " " ... "	.20			

WIRE CONNECTORS.

Single Screw.

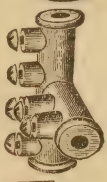
List No.		Price each
4872	Outside size, 5/16 in. for Nos. 12 & 14 wire.	$0 08
4873	Outside size, 5/16 in. for Nos. 10 & 8 wire.	08
4874	Outside size, ⅜ in. for Nos. 6 & 7 wire.	09
4875	Outside size, 7/16 in. for Nos. 4 & 5 wire.	12
4876	Outside size, ½ in. for Nos. 2 & 3 wire.	14
4877	Outside size, 9/16 in. for Nos. 0 & 1 wire.	17

Double Screw.

List No.		Price each
4878	Outside size, 7/16 in. for Nos. 4 & 5 wire.	$0 14
4879	Outside size, ½ in. for Nos. 2 & 3 wire.	15
4880	Outside size, 9/16 in. for Nos. 0 & 1 wire.	16
4881	Outside size, ⅝ in. for No. 00 wire.	22

Double Screw. Extra Heavy Cast.

List No.		Price each
4886	For No. 0 and smaller.....	$0 25
4887	For No. 00 and smaller.....	30
4882	For No. 000 and smaller.....	52
4883	For No. 0000 and smaller.....	62
4884	With 1 inch outside diameter.....	90
4885	With 1⅛ inch " "	1 10



Three-Way. Cast.

List No.		Price
4888	Three-Way, No. 0 wire.....	$0 40
4868	Three-Way, No. 00 wire.....	50

MAGNETO BLASTING MACHINES.

Blasting by electricity is the surest, safest and best method of igniting blasts. There is no waiting; it is done instantly and safely. A Blasting Machine is a necessity to everyone who uses high explosives.

The No. **9312** is a small machine for firing one to eight holes; is very light, weighing about 15 lbs., and is operated by a crank. It is especially adapted to prospecting, quarry and stump blasting.

These machines are made in four sizes of varying capacity as listed below.

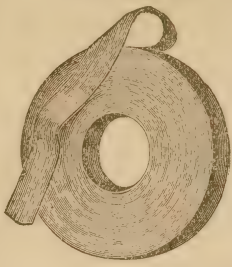
Full directions with each machine.

List No.		Price
9312	Crank Blasting Machine, will fire 1 to 8 holes...each,	$30 00
9313	Push Bar Blasting Machine, will fire 1 to 10 holes. "	30 00
9314	Push-Bar Blasting Machine, will fire 20 to 35 holes "	50 00
9315	Push-Bar Blasting Machine, will fire 35 to 75 holes "	100 00
9316	Leading Wire, about 50 feet to the lb.....per lb.,	70
9317	Connecting Wire, about 250 feet to the lb... "	90

We can also fill orders for fuses.

SPLICING TAPES AND COMPOUNDS.

CLOTH BASE RUBBER INSULATING TAPES.



List No.				Price per lb.
4740 Manhattan,	White,	¼ lb.	Rolls	$0 60
4741 Manhattan,	Black,	¼	" "	50
4742 Manhattan,	White,	½	" "	60
4743 Manhattan,	Black,	½	" "	50
4744 Grimshaw,	White,	½	" "	1 30
4745 Grimshaw,	Black,	½	" "	1 40
4746 Manson,	Black,	½	" "	1 10
4747 Okonite,	Black,	½	" "	1 70
4748 Kerite,	Black,	1	" "	1 60
4749 Competition,	Black,	½	" "	80
4754 Competition,	White,	½	" "	80
4750 P. & B.	Black,	½	" "	80
4751 Acme,	Black,	½	" "	1 00

RUBBER GUM TAPE.

List No.		Price.
4752	Manhattan A, ½ pound Rolls, per pound.....	$1 10
4753	Manhattan B, ½ pound Rolls, per pound.....	70

Any of the above Tapes furnished in ½, 1, 1½, 2 and 3 inches wide, to order. Furnished regularly in ¾ inch widths.

VOLTA TAPE.

This is a special high grade Friction Tape, guaranteed to give perfect satisfaction under the most trying conditions. Put up in half pound rolls. Each roll encased in a neat tin box.

List No.		Price.
4755	Volta Tape, Black, ½ lb. Roll, per pound.....	$0 90
4756	Volta Tape, White, ½ lb. Roll, per pound.....	90

CHATTERTON COMPOUND.

4760	Chatterton's American, in Sticks, per pound.....	$1 50
4761	Chatterton's Imported, in Sticks, per pound.....	2 50

THE ADHESIVE SEALING AND BINDING CEMENT.

This is a new Sealing Compound, suitable for all purposes where a high class electrical cement is required. It is recommended for insulating, jointing, filling and cementing all materials, including switchboards, batteries, cut-outs, fixtures, fuse blocks, etc. It prevents electrolysis. Will stand over 2,000 Volts per square inch. It can be melted in ladle or a Stick can be handled like a lead solder. This material is made in several different grades to suit requirements. Furnished in one pound Sticks, eight inches long, and one and one-half inches in diameter; or in bulk if desired in large quantities.

List No.		Price.
13600	Insulatine, High Temperature Sealing Cement, for Panels, Switchboards, Porcelain, etc., per pound..	$0 40
13601	Insulatine, High Melting, Flexible at 60 to 80 degrees, Acid and Water proof, Used for Cable Terminals, Submarine Work, Potheads and Subway Connections, per pound.....	0 30

P. & B. COMPOUND.

For all general uses the No. 2 Compound is recommended. No. 1 Compound is used when an almost immediate drier and extreme pentration is desired.

List No.		Pint Cans.	Quart Cans.	1 Gallon Cans.
4762	1st Grade, price per gal....	$4 50	$4 50	$3 50
4763	2nd Grade, price per gal.....	4 00	4 00	3 00

STANDARD CROSS ARMS.

3¼x4¼ Double Painted and Bored for 1½ inch Pins, and two ½ inch Bolt Holes.

List No.						Price
3985	2 feet long, for 2 Pins				per lineal foot,	$0.12
3986	3 " " " 2 "				" " "	.12
3987	4 " " " 4 "				" " "	.12
3988	5 " " " 4 "				" " "	.12
3989	6 " " " 6 "				" " "	.12
3990	8 " " " 8 "				" " "	.12
3991	10 " " " 10 "				" " "	.12

TELEPHONE CROSS ARMS.

Painted two coats. Finished size 2¾x3¾ inch. Bored for 1¼ inch Pins and two ½ inch Bolts.

List No.	Length.					Price.
3992	24 inches, for 2 Pins				per lineal foot	$0.10
3993	30 " " 2 "				" " "	.10
3994	36 " " 2 "				" " "	.10
3995	42 " " 4 "				" " "	.10
3996	62 " " 6 "				" " "	.10
3997	82 " " 8 "				" " "	.10
3998	102 " " 10 "				" " "	.10
3999	120 " " 12 "				" " "	.10

No. 4002

PINS AND BRACKETS.

No. 4003

No. 4001

List No.			Price.
4001	Oak Brackets, Painted	per 100,	$2.50
4002	Brown's Duplex Brackets	" "	4.00
4003	Locust Pins, 1¼ inch	" "	3.00
4004	" " 1½ "	" "	3.25
4005	Oak " Painted, 1¼ inch	" "	1.70
4006	" " " 1½ "	" "	2.00
4000	Brown's Duplex Pins	" "	4.00

CROSS ARM BRACES.

List No. 4216	Length, 26 inches, plain				Price per 100	$12.00
" 4217	" 24 " "				" "	11.80
" 4236	" 20 " "				" "	10.00
" 4224	" 26 " galvanized				" "	14.50
" 4225	" 24 " "				" "	14.00
" 4237	" 20 " "				" "	12.00

CARRIAGE BOLTS.

List No.			Price.
4232	⅜x4 in.	per 100,	$1.75
4233	⅜x4¼ "	"	1.90
4234	⅜x4½ "	"	2.00

For galv. add 40 per cent net

LAG SCREWS.

For Cross Arms and Braces.

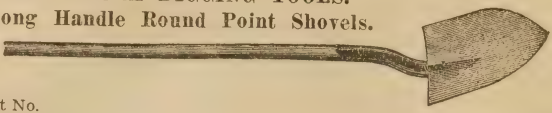
Approximate weight 24 lbs per 100.

List No. 4244	½x4 inches, per 100	Price,	$3.30
" 4249	½x7 " "	"	4.80
	Round washers	per 100 "	.75

A full line of Telephone construction material always in stock, upon which we will be pleased to quote.

POST HOLE DIGGING TOOLS.

Long Handle Round Point Shovels.



List No.		Price.
9740	7 ft. ..... each,	$3 00
9741	8 ft. ..... each,	3 50

Long Handle Spoons.

List No.		Price.
9742	7 ft. ..... each,	$3 00
4353	8 ft. ..... each,	3 50

Digging Bars.—Solid Steel.

List No.		Price.
9747	Round, 1 inch diam., 17 lbs. ..... each,	$3 50
9748	Round, 1⅛ inch diam, 8 ft. long, 28 lbs. ..... "	4 50
9749	Octagon, 1⅛ inch diam., 8 ft. long, 27 lbs. ..... "	5 00

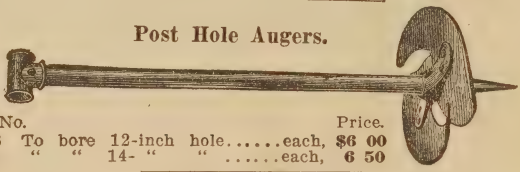
Tamping and Digging Bars.

List No.		Price.
9755	Octagon, 1 in. diam., 7 ft. long, 19 lbs. ..... each,	$4 00
9756	Octagon, 1⅛ in. diam., 8 ft. long, 30 lbs. ..... "	5 00
9757	Round, 1 in. diam., 7 ft. long, 19 lbs. ..... "	4 00

Split Wood Handle Post Hole Digger.

List No.		Price.
9760	Split handle diggers, 5-foot handle ..... each,	$2 50
9761	" " " 7 " " ..... each,	3 00

Post Hole Augers.



List No.		Price.
4358	To bore 12-inch hole ..... each,	$6 00
9762	" " 14- " " ..... each,	6 50

CLIMBERS FOR LINEMEN.

Western Climbers.

Lengths from 16 to 18 inches by 1 inch variations.

List No.		Price.
9766	Without Straps .... per pair,	$2 70
9767	West'n Climber Straps, set,	1 50

Eastern Climbers.

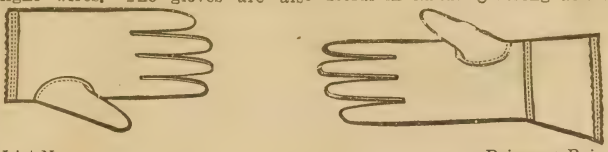
Lengths from 14 to 18 inches by ½ inch variations.

List No.		Price.
9768	Without Straps .... per pair,	$3 20
4428	Straps with leather pads, per set	1 70

LINEMEN'S RUBBER GLOVES

For Protection from Shock.

These gloves are designed to prevent the frequent and often fatal accidents occurring to linemen from shock while handling electric light wires. The gloves are also useful in handling strong acids.

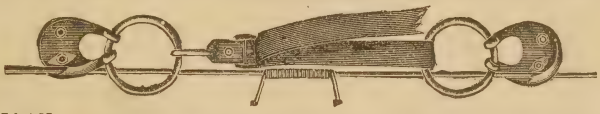


List No.		Price per Pair.
4787	Heavy Short Gloves	$3 50
4788	Heavy Gloves with Gauntlet	4 00

STRAPS AND VISES.

List No.		Price.
4451	5½-inch Vise with loop	$2.20
4459	Strap for Vise	1.30

"COME ALONG" ECCENTRIC CLAMPS, WITH STRAP.



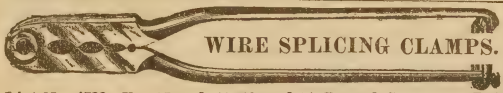
List No.		Price.
4460	"Come Along" Eccentric Clamp only, small size	each, $1.00
4461	" " " " " large size	" 1.50
4463	Straps for "Come Along" Eccentric Clamps	" 1 30

STEEL SIDE CUTTING PLIERS.

No. 4525

List No.		Price
4525	5 inch	$1.00
4526	6 "	1.30
4527	7 "	1.60
4528	8 "	2.00

For Nickel-plating, add 25 per cent. net.



WIRE SPLICING CLAMPS.

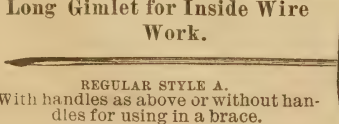
List No. 4589 For Nos, 8, 10, 12 and 14. B. and S. Price, each, $2.50

STEEL TIE WRENCH.

The purpose of this tool is to wrap the tie wire around the line wire, where it is fastened to the insulators. It will wind the tie wire around line smoothly, without marring same.

List No. 4593 ..... each, $2.00

Long Gimlet for Inside Wire Work.



REGULAR STYLE A.

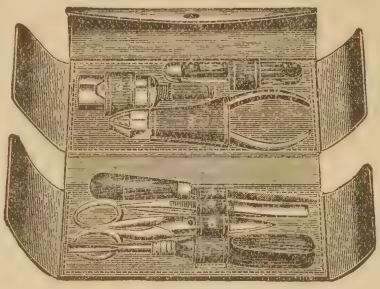
With handles as above or without handles for using in a brace.

		Price.
12 inch	x¼ or 5/16	$0.75
18 "	x¼ or 5/16	.75
24 "	x¼ or 5/16	1.00
30 "	x¼ or 5/16	1 00
36 "	x¼ or 5/16	1.25

TOOL BELTS.

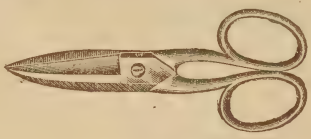
List No.		Price.
9774	Belt with rings for safety strap each	$2 00
4443	Plain Tool Belt	1.50

ELECTRICIAN'S POCKET TOOL KIT.



This outfit is indispensable to the practical electrician. The case is made of the best quality of russet leather, hand stitched. It is of convenient pocket-book style, with firm metallic clasp, and measures 3x6 inches. It contains the following tools, viz: 1 Electrician's Knife, 1 Oil Can, 1 pair Nickel-plated six inch Pliers, 1 File, 1 pair Tweezers, 1 pair Electrician's Shears and 1 Screw Driver.

List No.		Price.
4685	For Complete Kit	each $6.50
4686	For Case only	" 2.00
4688	Oil Can	" .20
4689	6 inch Pliers	" 1.50
4690	File	" .60
4691	Tweezers	" .50
4693	Screw-Driver	" .25



Electricians' Scissors

Extra Heavy Blades, used for cutting and stripping wire.

List No.		Price.
4675	Nickel-plated	$1.00

THE UNIVERSAL TOOL.

Embodies Pocket Knife, Leather Punch. Swedging-Awl, Wire Cutter, Wire Pliers, Alligator Wrench, Scraping Hook, Screw-driver, Screw Bit. All contained within the dimensions of an ordinary pocket-knife.

List No.		Price,
9886	Universal Tool	$2.00

ELECTRICIANS' COMBINATION KNIFE.
Screw Driver and Wire Scraper.

Locked when opened or closed.

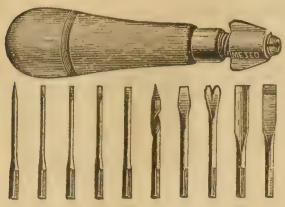
List No.		Price.
4636	Each	$0.90

FLOOR GROOVERS.

List No. **4676** Medium size, each, $0.60
" **4677** Large " " .90

A full line of Electrician's and Wiremen's tools always in stock.

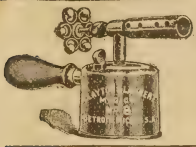
HOLLOW HANDLE TOOL SETS.



Cuts ¼ Size.

The Cocobolo handle has Jaws, Clamping Nut and Ferrule nickel-plated. Tools highly polished steel. The shanks of the tools are squared and largest at the end, which effectually prevents their pulling out when in use. We also supply a small size set of these tools of same quality, but not as highly polished, encased in maple or apple wood handle instead of Cocobolo.

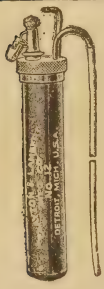
List No.		Price
4695	Small size, Cocobolo handle ..... per set,	$1.70
4696	Small size, Maple handle..... "	1.00



BABY GASOLENE TORCH.

The tank is a solid brass casting, fitted with cast bottom, which screws to place and is then brazed, and will withstand an enormous pressure.

List No. **4715** Polished brass.....Price, $6.00



POCKET TORCH

Burns either gasolene or alcohol. It is made on new principles by which the air blast is passed through a chamber charged with gasolene or alcohol gas, which makes a much stronger fire than can be had in any other way. When blow tube is not used the torch makes a fine candle, which the user will find valuable when working in dark places. This torch is well made, all parts being brass, nickle-plated, and finely finished, size ⅞ in. diameter, and 6 in. high—just fits the vest pocket. As this torch does first-class work, using gasoline for fuel, it will save its cost in a short time in cost of fuel alone.

List No.		Price.
4706	Nickel-plated.....	$2.80

SOLDERING OUTFITS.

The casket contains Soldering Iron, Scraper, large bar of Solder, box of Soldering Salts, and full directions, all inclosed in fancy box.

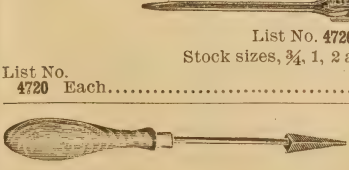
List No. **4718** Complete $2.00

STANDARD SOLDERING COPPERS.

List No. **4720.**

Stock sizes, ¾, 1, 2 and 3 lbs.

List No.		Price.
4720	Each.....per lb.,	$0.70



JEWELER'S SOLDERING COPPERS

List No **4719** Each.....Price, $0.50

BAR SOLDER.

List No. **4730** Strictly Half and Half.....Price per lb., $0.60

WIRE SOLDER.

List No.		Price.
4731	Wire Solder.....per lb.,	$0.60

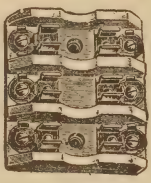
ENCLOSED FUSE CUT-OUTS.

National Electrical Code Standard 30 Ampere, 250 Volts.

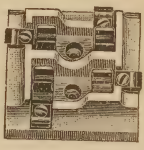
No. 7936

No. 7937

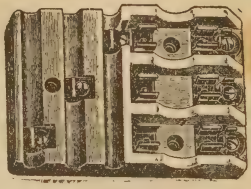
No. 7939



No. 7938



No. 7944



No. 7940

No. 7942

No. 7941

No. 7943

COLUMBIA UNIVE

List No.		Std. Pkg.	Price. each
7936	Single Pole, Main Line	50	$0.40
7937	Two Wire, Main Line	50	.60
7938	Three Wire, Main Line	50	.90
7939	Two Wire, Single Branch	50	.80
7940	Three Wire, Single Branch	50	1.35
7941	Two Wire, Double Branch	25	1.30
7942	Three to Two Wire, Double Branch	25	1.50
7943	Three Wire, Double Branch	25	2.25
7944	Two Wire, Cross Over	50	.80

Fuses for Use With 30 Ampere 250 Volt Cut-Outs.

Length Over All, 2 Inches. Diameter of Tube, ½ Inch.

List No.	Amp. Capacity	Std. Pkg	Price.	List No.	Amp. Capacity	Std. Pkg	Price.
34949	3	100	$0.25	**34954**	15	100	$0.25
34950	5	100	.25	**34955**	20	100	.25
34951	8	100	.25	**34956**	25	100	.25
34952	10	100	.25	**34957**	30	100	.25
34953	12	100	.25				

FUSE WIRE ON WOODEN SPOOLS.

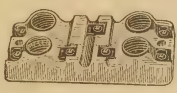
List No.	Safe Carrying Capacity Amperes	Price Per Lb.	Length Per Lb. Feet	List No.	Safe Carrying Capacity Amperes	Price Per Lb.	Length Per Lb. Feet
9980	¼	$8 00		9996	16	$0.75	47
9981	½	3.50		9997	18	.75	42
9982	¾	2.75		9998	20	.75	37
9983	1	1 10	1.025	9999	25	.75	28
9984	2	1.05	680	10000	30	.75	23
9985	3	1.00	445	10001	35	.75	19
9986	4	1.00	290	10002	40	.75	17
9987	5	1 00	168	10003	45	.75	15
9988	6	.85	145	10004	50	.75	13
9989	7	.85	122	10005	60	.70	10
9990	8	.80	105	10006	70	.70	9
9991	9	.80	92	10007	75	.70	7
9992	10	.80	82	10008	80	.70	7
9993	12	.80	66	10009	90	.70	6
9994	14	.80	56	10010	100	.70	5
9995	15	.75	53				

FUSE LINKS AND WIRE.

Wire Fuse. Amperes	Fuse Links, Small Terminals, 1¾ to 3½ in. C. to C.	3½ to 5 in. C. to C.	C. to C.
1 to 30 Per 100	$3.60	$4.80	$6.00
35 " 100 "	3.60	6 00	9.60

Strip Fuse. Amperes	Large Terminals, 2½ in. C. to C.	2¾ to 5 in. C. to C.	5¼ to 8 in. C. to C.
25 to 100 Per 100	$12.00	$18.00	$24.00
110 " 200 "	14.40	21.60	28.80
210 " 400 "	18 00	27.00	36.00
410 " 600 "	24 00	36.00	48.00

EDISON PLUG CUT-OUTS.



No. 62199

No. 62135

No. 62587

No. 8042

No. 62165

No. 61935

List No.	Price.
62587 D. P. Double Branch, Stand. Pkg., 100	$0.62
62199 3 to 2 Wire, Double Br'ch Stand. Pkg. 100	.64
62165 3 Wire, Main, Stand. Pkg., 100	.44
62135 3 Wire, Double Branch Stand. Pkg., 50	.90
8042 3 Wire, Single Branch Stand. Pkg., 75	.54
61935 D. P. Single Branch, Stand. Pkg., 100	.32

Fuse Plugs for use with Plug Cut-Outs.

List No.	Normal Capacity.	Stand. Pkg.	Price.
66327	3 Amperes	500	$0.07
66329	6 "	500	.07
66331	10 "	500	.07
66333	12 "	500	.07
66335	15 "	500	.07
66337	20 "	500	.07
66339	25 "	500	.07
66341	30 "	500	.07

MAIN AND BRANCH CUT-OUTS, COVERED.

No. 998

Main Line.

List No.		Std. Pkg.	Price.
938	15 Amperes	250	$0.24
939	25 "	250	.38
940	50 "	100	.80
941	100 "	50	1.30

Branch.

List No.		Std. Pkg.	Price
942	15 Amperes	250	$0.24
943	25 "	250	.38
944	50 "	50	1.00

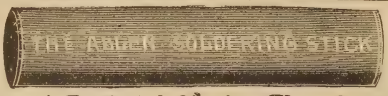
No. 942

EXCELSIOR SOLDERING SALTS.

This is the Best Soldering Salts Manufactured.

We can safely recommend it as we have used it continuously in our soldering department during the past five years.

List No.		Price.
4734	In ½ pound bottles	$0.30
4735	In 1 " "	.44
4736	In 5 " "	1.80



Non-Corrosive, Convenient and Effective.

A Perfect Soldering Flux for Electrical Wiring.

List No. **4732** Per stick.....Price, $0.20

CHANDELIER INSULATING JOINTS FOR COMBINATION FIXTURES.

In Malleable Iron.

List No.	5833	5834	5835	5836	5837	5838	5839
Size	⅜x⅛	⅜x¼	⅜x⅜	½x⅛	½x¼	½x⅜	½x½
Price, each	$0.68	68	68	90	90	90	90
List No.	5840	5841	5842	5843	5844	5845	
Size	¾x⅜	¾x½	¾x¾	1x½	1x¾	1x1	
Price, each	$1.34	1.34	1.34	2.18	2.18	2.18	

BRACKET INSULATING JOINTS FOR COMBINATION FIXTURES.

In Malleable Iron.

List No.	5853	5854	5855	5856	5857	5858
Size	⅜x⅛	⅜x¼	⅜x⅜	½x⅛	½x¼	½x⅜
Price, each	$0.54	54	54	75	75	75

BLANK INSULATING JOINTS FOR EXTERNALLY WIRED ELECTRIC CHANDELIER FIXTURES.

In Malleable Iron.

List No.	5872	5873	5874	5875	5876	5877	5878
Size	⅜x⅛	⅜x¼	⅜x⅜	½x⅛	½x¼	½x⅜	½x½
Price, each	$0 68	68	68	90	90	90	90
List No.	5879	5880	5881	5882	5883	5884	
Size	¾x⅜	¾x½	¾x¾	1x½	1x¾	1x1	
Price, each	$1.34	1.34	1.34	2.18	2 18	2 18	

BLANK INSULATING JOINTS FOR EXTERNALLY WIRED ELECTRIC BRACKET FIXTURES.

In Malleable Iron.

List No.	5891	5892	5893	5894	5895	5896
Size	⅜x⅛	⅜x¼	⅜x⅜	½x⅛	½x¼	½x⅜
Price, each	$0.54	54	54	75	75	75

Special prices for quantities.

FLEXDUCT AND CIRCULAR LOOM.

		Price.
Hole ¼ inches.	Per 100 Feet	$8.40
" ⅜ "	" "	9.80
" ⅞ "	" "	11.20
" ½ "	" "	14.00
" ⅝ "	" "	16.80
" ¾ "	" "	22.40
" 1 "	" "	28.00
" 1¼ "	" "	

Circular Loom and Flexduct is approved by all Boards of Fire Underwriters in the United States. Endorsed and used by Architects, Electrical Engineers and Contractors.

Woven Wire Dynamo Brushes.

PURE COPPER

Thickness	Length	WIDTH IN INCHES. ½	¾	⅞	1	1⅛	1¼	1⅜	1½	1¾	2
3/16	7	.60	.66	.76	84	.92	.98	1.06	1.16	1.28	1.42
	8	66	.74	.84	.94	1.02	1.10	1 20	1.28	1.44	1.60
¼	7	.72	.84	.94	1.06	1.16	1.26	1.38	1.48	1.66	1.82
	8	.80	94	1.06	1.08	1.30	1.42	1 54	1.66	1 86	2 04
5/16	7		.98	1.12	1.26	1.40	1.54	1.66	1.78	2.00	2.20
	8		1.08	1.26	1.42	1.58	1 72	1.86	1.96	2 24	2.46
⅜	7			1.30	1 48	1 62	1.80	1.92	2.04	2.36	2.52
	8			1.48	1.66	1.82	1.96	2.14	2 30	2.58	2 82
7/16	7				1.74	1 86	2.00	2.16	2.36	2.64	2.88
	8				1.86	2.04	2 22	2.40	2 58	2 88	3 16
½	7					2 04	2.24	2 40	2.60	2.88	3.16
	8					2 26	2.46	2 64	2 82	3.16	3.44
⅝	7						2.62	2.82	3 02	3.36	3.68
	8						2 94	3.16	3.38	3.76	4.10

CARBON BRUSHES FOR DYNAMOS AND MOTORS.

Size.	Price per 100.
2½x2¼x ¼	$12 00
2½x2¼x ½	16 00
2½x2¼x ¾	21 00
2½x2¼x1	25 00
2½x2 x ½	14 00
2½x2½x ¼	13 00
2½x2½x ½	18 00
2½x2½x ¾	23 00
2½x2½x1	28 00
3 x1 x ¼	6 00
3 x1 x ½	10 00
3 x1 x ¾	12 00
3 x1 x1	14 00
3 x1½x ¼	8 00
3 x1½x ½	13 00
3 x1½x ¾	17 00
3 x1½x1	20 00
3 x2 x ¼	12 00
3 x2 x ½	17 00
3 x2 x ¾	22 00
3 x2 x1	27 00

Size.	Price per 100
3 x3 x ¼	$19 00
3 x3 x ½	26 00
3 x3 x ¾	33 00
3 x3 x1	41 00
3½x1 x ¼	8 00
3½x1 x ½	10 00
3½x1 x ¾	13 00
3½x1 x1	16 00
3½x2 x ¼	15 00
3½x2 x ½	20 00
3½x2 x ¾	26 00
3½x2 x1	32 00
3½x3 x ¼	22 00
3½x3 x ½	30 00
3½x3 x ¾	39 00
3½x3 x1	48 00
3½x3½x ¼	25 00
3½x3½x ½	34 00
3½x3½x ¾	45 00
3½x3½x1	55 00
3½x3½x1½	76 00

Size.	Price per 100.
4 x1 x ¼	$8 00
4 x1 x ½	12 00
4 x1 x ¾	15 00
4 x1 x1	18 00
4 x1½x ¼	12 00
4 x1½x ½	17 00
4 x1½x ¾	22 00
4 x1½x1	27 00
4 x2 x ¼	17 00
4 x2 x ½	23 00
4 x2 x1½	46 00
5 x1 x ¼	8 00
5 x1½x ¼	16 00
5 x1½x ½	21 00
5 x1½x ¾	28 00
5 x1½x1	34 00
5 x1½x1½	47 00
5 x2 x1	46 00
5 x2 x1¼	54 00
5 x2½x ¼	26 00
5 x2½x ½	36 00

Size.	Price per 100.
5 x2½x1	$57 00
6 x1½x ½	26 00
6 x1½x ¾	33 00
6 x1½x1	41 00
6 x1½x1¼	49 00
6 x1½x1½	56 00
6 x2 x ½	34 00
6 x2½x ¾	56 00
7 x1½x ½	30 00
7 x2 x ½	40 00
7 x2¼x ½	45 00
7 x2½x ⅛	50 00
7 x2½x ⅜	43 00
7 x2½x ⅝	57 00
7 x2¼x ⅜	39 00
7 x2¼x ⅝	51 00
7 x2¼x ¾	58 00
7 x2¼x ⅞	63 00
7 x2¼x1	71 00
7 x2¼x1½	96 00

WIRE LAMP GUARDS.

Illustrations show a few leaders in our line of Lamp Guards. All are standard weight and for 16 C. P. Lamps.

No. 11074

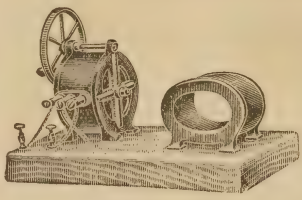
No. 14230

List No.		Price.
11074	Per Dozen	$2.40
14730	" "	1.50
11068	" "	1.50
14733	" "	3.00

No. 11068

No. 14733

WATCH DEMAGNETIZERS.



For Direct Current.

These instruments are steady money makers for the jeweler, and no shop is complete without one.

Complete with pole changer, conducting cord and plug, handsome in appearance, every instrument guaranteed.

List No.		Price.
14355	Demagnetizer for direct current only	$24.00

For Alternating Current.

This instrument is intended for use on alternating current only.

Has slate base, nickel plated end plates, and is handsomely finished throughout.

The running expense is nominal, the operation is simple and results sure.

Full directions with every instrument

Shipped complete with conducting cord and plug. Every instrument is guaranteed.

List No. **14356** Demagnetizer for alternating current only..Price, $8.00

STANDARD SOCKET HANDLE.

Screws into the Socket, the lamp cord passing through the hole in the handle shown in cut. Used to transfer the position of a Hanging Lamp.

List No. **6040** For ⅛ Socket.....Price, $0.15
List No. **6043** For ⅜ Socket.....Price, .18

WALL PLATES.

List No.		Price
6070	1¼ inch, female	each $0.15
6089	1¼ inch, male	" .15
6071	2 inches, male	" .15

WOOD FIXTURE BLOCK.

List No.	White Wood.	Price.	List No.	Hard Wood.	Price
6076	3 inch	$0.10	**6081**		$0.20
6077	4 inch	.10	**6082**		.20
6078	5 inch	.15	**6083**		.30

CANOPIES AND SHADE HOLDERS.

No. 6091

No. 6094

No. 6105

List No.				Price.
6091	Canopies, width 3½ inches, depth 2½ inches			Each $0.30
6094	" " 4½ " " 2⅝		"	.30
6105	Shade Holder 2¼ "		Per Doz.	.75
6106	" " 3¼ "		"	1.50

CROWFOOT.

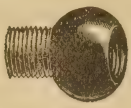
GAS ATTACHMENT.

List No. **6099** Crowfoot, Tapped from ⅛ to ½ inch.....Price, $0.06
" **6112** Gas Fixture Attachment..... " .08

SOCKET PLUGS, BUSHINGS AND CORD ADJUSTERS.

No. 9165

No. 10509


No. 10922

No. 9064

No. 9093

List No.		Price.
9165	Rubberite Socket Plug, ⅜ in.-28 thread for ⅛ in. pipe, per 100,	$0.70
10509	Soft Rubber Socket Plug ..... "	.80
10922	Rubberite Socket Bushing, ⅜ in.-28 thread for ⅛ in. pipe "	1.50
9093	Ball Cord Adjuster, stained cherry or black enamel..... "	1.50
9064	Peanut Cord Adjuster, black enamel..... "	1.50
14719	Ball Adjuster for Show Window Cord, each.....	.05

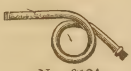
ELECTRIC BRACKET TUBES.

Size ⅜ inch Brass Measurement.

No. 6118

List No.	Scale, 1/6.	Price.
6118	4 inch..... each	$0.18
6119	6 " ..... "	.20
6120	8 " ..... "	.24
6121	10 " ..... "	.32
6132	4 " ..... "	.18
6133	6 " ..... "	.20
6134	8 " ..... "	.24
6135	10 " ..... "	.32

No. 6132


No. 6124

List No.	Scale, 1/6.	Price.
6124	Each.....	$0.42

SEPARABLE BOX CLUSTER.

No. 6148

List No.		Price.
6145	2 Light.....	$0.50
6146	3 "	.60
6147	4 "	.70
6148	5 "	.80
6149	6 "	.90
6150	8 "	1.20

TWO-PIECE SHADE HOLDER FOR CLUSTER LIGHTS.

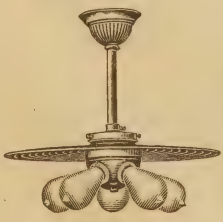
No. 6109

To slip brass tube.

Bottom piece rests on top cluster body. To sustain shade a top piece fits neatly over shade opening and holds the shade firmly in position.

List No.		Price.
6109	2¼ inch..... each,	$0.26
6110	3¼ " ..... "	.30

BENJAMIN WIRELESS CLUSTERS COMPLETE.



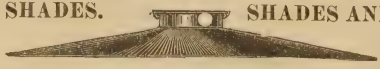
These pendant clusters are made up from cluster bodies and consist of cluster body, 12 in. stem, crow-foot, shade holder and canopy, complete with shade, but not wired.

Edison Base, Multiple, with Style 8 Bodies

List No.		Price.
14770	2 Light with 12 in. flat Opal Shade	$2.88
14771	2 " " 12 " " X-Ray "	4.32
14772	2 " " 12 " " Aluminum Shade.....	3.48
14773	2 Light with 12 in. flat Mirror Shade.....	3.36
14774	2 Light with 12 in. flat Tin Shade	2.52

We carry a full line of these clusters up to six light.

TIN SHADES. SHADES AND REFLECTORS.



Enameled White Inside, Green Outside.

List No.	Flat.	Price.	List No.	Deep Cone.	Price.
5475	Diam. 8 in., per doz.	$2.35	5489	Diam. 8 in., per doz.	$3.00
5476	" 10 " " "	3.00	5490	" 10 " " "	4.00
5477	" 12 " " "	4.00	5491	" 12 " " "	5.35

TIN HALF-REFLECTOR.

Green Outside.
White Enamel Inside.

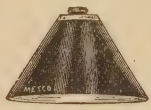
List No.		Price.
5482	With wire collar, per doz.	$3.35

PARABOLA REFLECTORS.

They fit any socket and are easily put on and removed, are seamless, and made both of steel and aluminum. Both are enameled green outside. The steel ones are finely enameled white inside, and the aluminum highly polished.

List No. 5498	Size 7 inch, Aluminum, polished	Price each,	$0.75
" 5469	" 7 " " frosted	"	.60

CARD BOARD AND CELLULOID SHADES.

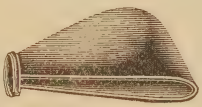


List No.			Price.
5494	8 inch Cardboard	per doz.,	$3.50
5507	8 " Celluloid, green, white lined,	"	12.00
5508	10 " Cardboard	"	4.00
5510	10 " Celluloid, green, white lined,	"	16.00

ROSE SHADE WITH ALABASTER LEAVES.

List No.			Price.
15022	Yellow Neck	per doz.	$12.00
15023	Ruby Neck	"	12.00
15024	Pink Neck	"	12.00
15025	Blue Neck	"	12.00

METAL HALF SHADE.



Shade holder attached. Can be adapted to Show-window, picture lighting, portable desk lamps, &c.

List No.			Price
14958	Green Enamel	per doz.	$2.80
14959	Oxidize Copper		4.20
14960	Nickel-Plated		4.20

Flat Opal

Fluted Opal.

Scalloped Opal.

Half Shade.
Green Glass.

List No,	FLAT OPAL.	Price.
5563	6 inch.....per doz.	$1.92
5564	7 " ..... " "	2.04
5565	8 " ..... " "	2.16
5566	10 " ..... " "	2.88
5567	12 " ..... " "	3.84
5568	14 " ..... " "	6.36
5569	16 " ..... " "	11.40
5570	18 " ..... " "	15.36
5571	20 " ..... " "	18 00
5572	24 " ..... " "	28.80

List No.	HALF SHADE.	Price.
5583	Green glass, per doz.	$7.00

FLUTED OPAL.

List No.		Price.
5573	6 inch.....per doz ,	$2 04
5574	7 " ..... " "	2 16
5575	8 " ..... " "	2 40
5576	10 " ..... " "	3 24

SCALLOPED OPAL

List No		Price
5578	5 inch.....per doz ,	$2 16
5579	6 " ..... " "	2 28
5580	7 " ..... " "	2 40
5581	8 " ..... " "	2 76
5582	10 " ..... " "	3 60

PORTABLES.

No. 12859

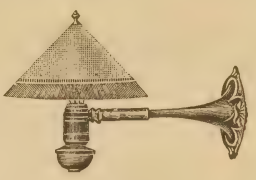
Illustrations show two of our handsome portables. Prices are for portable and shade holder only and do not include wiring or sockets.

List No.		Price
12859	Portable only with Shade Holder	$4.00
12883	Wired complete, with Socket, Plug and Cord	8.00
12907	Portable only with Shade Holder	5 50
12908	Wired complete, with Socket, Plug and Cord	9.50

No. 12907

COMBINATION BRACKET AND PORTABLE LAMP.

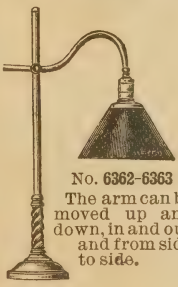
This is a very serviceable and convenient combination Portable or Wall Lamp, and looks very attractive. When ordering, mention style of socket in use. Unless specified, we supply them with the Edison socket.



As Bracket.

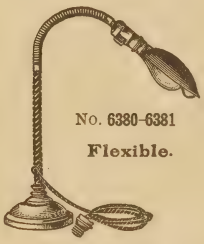
List No.		Price
6368	With shade and holder only	$6.00
6369	Wired complete, with socket plug and cord	8.50

PORTABLE LAMPS.



No. 6362-6363

The arm can be moved up and down, in and out and from side to side.



No. 6380-6381

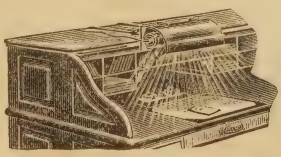
Flexible.

No. 6407 6808

Standard.

List No.		Price.
6362	Portable only, 24 inches high. Extension 12 inches	$5.00
6363	Complete with Shade Glass, green outside and holder	8.00
6380	Portable only, 18 inches high	3.60
6381	Complete with Aluminum or Glass half shade and holder	6.00
6407	Portable only, 24 inches high	4.00
6408	Complete with Opal Dome shade and holder	6.00

Nos. 6363, 6381 and 6408 are wired complete, with Key, Socket, attaching plug, and flexible cord; also shade and holder.

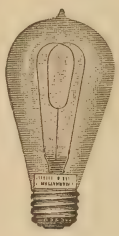


DAYLIGHT DESK LAMP.

This lamp is adjustable and will fit any desk. The light is soft and abundant and so well distributed as to leave no shadows or dark corners on the desk, yet the lamp is well shaded from the eyes. Nickel-plated and nicely finished.

List No.		Price
11387	Daylight Lamp complete with Socket, not wired.....each,	$4.00

THE IMPROVED MANHATTAN INCANDESCENT LAMPS.



A HIGH GRADE LAMP. This Lamp has given the best of satisfaction during the past four years to our numerous customers, and a trial order will convince you of its economy and efficiency.

			Plain.	Frosted.
4 to 20 Candle Power	PLAIN 45 to 130 VOLTS WITH EDISON BASE.	ea.	$0.40	$0.45
32 Candle Power.....		"	.60	.66
50 " "		"	.60	.66
100 " "		"	2.00	2.08
8-10-16 Candle Power..	PLAIN 200 to 250 VOLTS INCLUSIVE. EDISON BASE.	"	.44	.49
20-24 " "		"	.60	.65
32 " "		"	.80	.86
50 " "		"	.80	.86

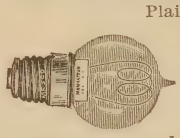
BUNGHOLE, CANDLE or TUBULAR LAMPS.

Plain 45 to 130 Volts, with Edison Base.

		Frosted.	Frosted.
4 Candle Power....	Price ea.	$0 40	$0.45
8 " "	"	.60	.65
10 " "	"	.60	.65
16 " "	"	.60	.65

SPECIAL SIGN AND DECORATIVE LAMP.

Plain 45 to 130 Volts, with Edison Base.



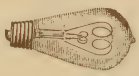
2 Candle Power.....	Price each....	$0.50	$0.55
4 " "	"	.50	.55
6 " "	"	.50	.55
8 " "	"	.50	.55
10 " "	"	.50	.55
16 " "	"	.50	.55

Above lamps can be obtained in the following colors:

Genuine colored, green, blue, 8 and 16 candle power, extra.....	.20
" opal, ruby, 8 and 16 candle power, extra.....	.40
" purple.....	.30
" amber and canary.....	.50

Frosted or artificial colored lamps, extra 25% net.
Always give Base, Shape. Candle Power and Voltage when ordering.

THE HYLO TURN DOWN LAMP.



The Hylo Lamp has two light-giving carbon threads. One is of ordinary size making 16 candle power, and one is exceedingly small, making only one candle power. The least little turn of the Hylo bulb in its socket puts out the big filament and lights up the "Baby."

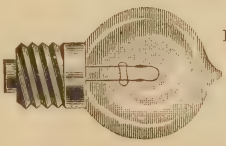
Anybody can operate it.

List No:		Price.
5418	Edison base.....	each, $0.90

Special prices for barrel lots or more.

MINIATURE BATTERY LAMPS.

Edison Miniature Base.



List No.	C. P.	Volts.			Price
15341	1	3½	and	4	$0.40
15344	2	4	and	7	.40
15347	3	5	and	7	.46
15350	4	7	and	9	.46
15353	6	9	and	12	.46

AUTOMOBILE LAMPS.

Candelabra Base.

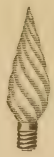
4 C. P. 20- 60 Volts
6 " 20- 60 "
2 " 70-130 "
5 " 70-130 "

Style J Decorative Candelabra.

15326 Plain..... .....each, $0.46

SERIES OR MULTIPLE CANDELABRA LAMPS.

Style A



Style D

Style G

List No.		Price in less than 200
	Style A	
15305	Plain	$0.56
15306	Natural Colored Glass, Green, Blue or Purple	.70
15307	" " " Ruby	.96
	Style D	
15311	Plain	.66
15312	Natural Colored Glass, Green, Blue or Purple	.80
15313	" " " Ruby	1.06
	Style G	
15317	Plain	.56
15318	Natural Colored Glass, Green, Blue or Purple	.70
15319	" " " Ruby	.96

Furnished in 4, 5 or 8 candle power.
Frosted lamps 4 cents additional to price of plain.
Superficial colored 8 cents additional to price of plain.
Special prices in quantities.

ECONOMICAL TURN DOWN LAMP.

Pull String Lamp.

This Lamp screws firmly into a socket and light is regulated by pulling either string, as shown in illustration.

A saving of 80 per cent. current when small filament is used. Life is 4 times that of an ordinary lamp.

It can be used in any style of fixture, upright, downward or from the side, also with "inclosed shades" or globes, this cannot be accomplished with any other turn down lamp.

List No.		Price
11464	Edison Base 8 to ½ candle power	$0.90
11467	" " 16 to " "	.90

MINIATURE BASE RECEPTACLES AND SOCKETS.

No. 5331

No. 5335

No. 5332

List No.	5331	Porcelain Receptacle for Miniature Base Lamps	$0 08
" "	5332	" " for Candelabra Base Lamps	.10
" "	5335	" " for Candle Fixtures	.15

"SIGNALOID" LAMP COLORING SOLUTION.

"Signaloid" is a solution chemically prepared for the coloring of incandescent lamps and globes. The process is simple and instantaneous. By merely dipping the lamp in the solution and withdrawing it immediately, produces a brilliant and durable transparency, giving the lamp the appearance of being made of colored glass.

It will not crack, peel or chip off, and the color will outlast any lamp.

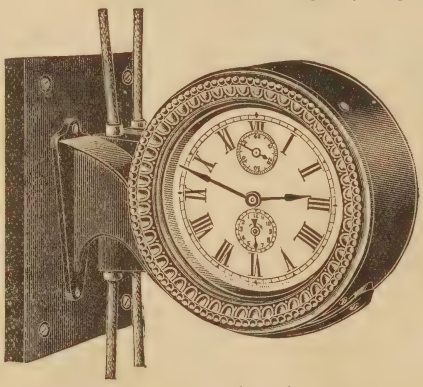
The following colors are carried in stock: Moonlight Blue, Ruby, Red, Blue, White, Golden Yellow, Green, Purple, Violet, Amber, Frostine.

Special colors can be made to order

List No.	Color	4 oz. Bottle Each	6 oz. Bottle Each	8 oz. Bottle Each	Pint Bottle Each
9300	Ruby	$0.70	$1.00	$1.30	$2.60
9301	Red				
9302	Blue				
9303	Moonlight Blue				
9304	White				
9305	Golden Yellow				
9306	Green				
9307	Purple				
9308	Violet				
9309	Amber				
9310	Frostine				

THE MESCO TIME SWITCH

For Window Lights, Signs, &c.



The simplest and most reliable Time switch on the market. Requires no metal box or cabinet.

Just wind the clock, switch on lights and they will be thrown off automatically at the time for which the alarm is set.

A high grade Seth Thomas Clock movement and standard push button switch are used.

The clock is exposed and if coveniently located will serve as a time piece also.

Knock-out holes are provided in slate base for concealed wiring.

It is entirely mechanical in operation, and there is no jar or concussion from the operation of the switch to affect the perfect running qualities of the clock movement.

A money saver for the merchant in both labor and current.

List No.		Price.
16450	For throwing off lights only, 10 Amp., 250 V., D. P.	$15.00

MANHATTAN FLUSH PLUG RECEPTACLE.

Serviceable, Simple, Strong.

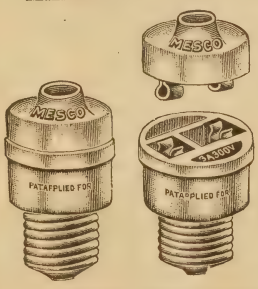
Specified and used by the best Architects and Contractors.

The Manhattan Receptacles and Plugs have new and distinctive features of design and arrangement which places them in the highest grade for efficiency and appearance. The body of the Receptacle and Plug is made of the best vitrified porcelain. Both pieces are liberally proportioned and strong to withstand severe usage. The face plate is entirely flush when the plug is in or out of the Receptacle. The small doors have a spring attachment which holds them either open or closed under tension. The plates are furnished with or without screw holes, as desired. The latter have projections on the inside for attaching to the Receptacle. The contact surface is extra large and arranged to avoid the possibility of a short circuit or ground while inserting the plug.

List No.			Price.
6530	Receptacle, complete	each,	$2.04
6531	Receptacle only with Plate, no Plug	"	1.48
6532	Plug only	"	.55
11510	Plate only	"	.72

Receptacles made in gangs on special order.

MANHATTAN SEPARABLE ATTACHMENT PLUG.



The simplest and most sensible Plug ever manufactured.

In the Manhattan Separable Attachment Plug, we have succeeded in producing a plug which is at once strong, simple, sensible and in every respect admirably adapted to meet the most exacting requirements.

Both plug and cap are generously proportioned and made from the best grade of porcelain. Vulcanized rubber cap may be had, if preferred, in place of porcelain.

Ample and positive contact area is secured by our method of construction.

Spring contact clips are of phosphor bronze and hold the brass terminals securely.

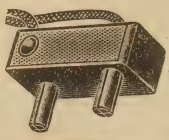
The contact "well" in the plug is reinforced by a heavy division wall.

It is the only separable plug which will separate at any angle. A pull on the cord in any direction will cause plug and cap to separate instantly, without imposing the slightest strain on socket or cord. The value of our separable feature is best demonstrated where plug is inserted in wall socket and cord is apt to accidently come in conflict with chairs, etc.

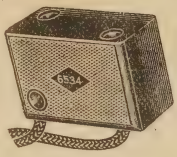
We court the closest examination and most severe tests of this plug. Send us a trial order.

List No.			Price.
16410	Porcelain Cap. 3 Amp. 250 V. Std. Pkg. 100	each,	$0.33
16411	Rubber " " " "	"	.38

MESCO SPECIAL CONNECTORS.

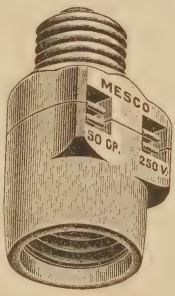


These connectors are very convenient for connections which have to be made and unmade frequently and rapidly. Therefore, they are well adapted for theatrical work, for storage battery connections in electric vehicles, for trailer light coupling on electric railways, and for large chandeliers in churches and theatres.



List No.		Price.
6534	Special Connectors, large size	$1.20
6535	Medium size for fans, portables, &c.	.80
6536	Small size for light currents	.50

MESCO CURRENT TAP.



Combined Socket and Attaching Plug.

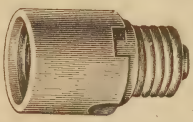
A simple and safe device for tapping and carrying the current from any electric light fixture to motor, drop lights or other electrical devices without the loss of lamp already in fixture.

A pleasing feature of the Mesco Current Tap is that body may be left in socket while connections may be made or broken at will on the extension without disturbing the light.

Made of Glazed Porcelain, phosphor bronze contact clips. Designed for 250 Volts.

List No.		Price.
16414	Mesco Current Tap	$0.55

EDISON CURRENT TAP.



This device is of great convenience in connecting a fan, a sewing machine motor, an extra lamp or other devices of similar character. Special connections may thus be made to any electric lighting circuit without the assistance of a wireman. The leads are attached to the side of the plug, and the lamp inserted in the socket; thus in the event of there being only one available socket or receptacle, a small motor may be attached without interfering with the illumination of the room. The combined socket and attaching plug is made of glazed porcelain with all live metal parts protected. It is designed for 250 volts and can be used in connection with all standard electric sockets and receptacles.

List No.		Price.
50751	Edison base, complete	each, $0 55

VETTER CURRENT TAP.

Very convenient for fan motors and similar work. Made for series or multiple circuit extension. Mention series or multiple when ordering.

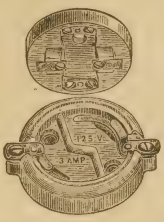
List No. **6511**, Edison; **6512**, T.-H. and **6513**, Westinghouse Base ..... Price each, $1 00

MANHATTAN ROSETTE.

The locking arrangement on this rosette is positive and will not permit the cap to become loose under any conditions. The liberal metal surface makes a perfect electrical contact.

List No.	Standard Pkg. 250.	Price.
6560	Moulding Square Base	each, $0.26
6561	Cleat	" .26
6562	Concealed	" .26

MANHATTAN PONY ROSETTE.



CUT ⅓ SIZE.

This is the most popular small Rosette manufactured. The perfect locking device, safe carrying capacity and neat, compact appearance, makes it desirable with every one.

List No.		Price.
6565	Cleat Rosette	each, $0.16
6566	Moulding Rosette	" .16

MOULDING RECEPTACLE AND FUSELESS ROSETTE.

No 50826

List No.		Price.
50726	Receptacle for Shade Holder	$0.30
6492	Fuseless Rosette, each	.20

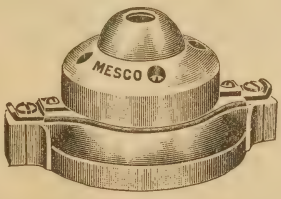
This Rosette fits on the moulding and saves time and labor in connecting. No cutting of moulding. St'd Pkg. 250.

No. 6492

MESCO ROSETTE.
K. W. Type.

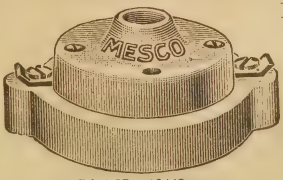
All K. W. Caps are interchangeable and will fit any base.

For 125 Volt Work.



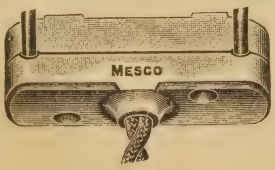
List No.		Price Each.
11534	Cleat with Cast Lugs, Std. Pkg. 250	$0.29
11535	Cleat with Stamped Lugs, Std. Pkg 250	.28
11536	Concealed Base. Std. Pkg. 250	.28
11537	Combination Concealed or Moulding, Round Base. Std. Pkg. 250	.28
11538	Mould'g Square Base Std. Pkg. 250	.28

PONY FUSELESS ROSETTES.



List No. 16448

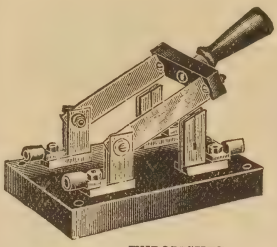
List No.		Price Each
16417	Cleat, connections on cap, with sub base	$0.16
16418	Cleat, connections on base	.16
16419	Moulding, connections on base	.16
16420	Concealed, connections on base	.16



Combined Fuseless Cleat and Rosette.

Size but little larger than ordinary two wire cleat. Has ample space for cord knot and is easily wired.

List No.		Price
6555	complete	$0.16



UNPOLISHED.

TYPE "H" SWITCH.

This switch conforms with the rules of the National Board of Fire Underwriters and is correct in every particular. It is made to meet the demand for a low priced switch, to be used in places where strength and durability are required without the necessity of elegance in finish. The switch is made single, double or triple pole, single or double throw, single break, with or without fuse terminals, for front connections, unpolished. All switches above 25 Amperes are equipped with lugs for soldering wires in place of binding posts.

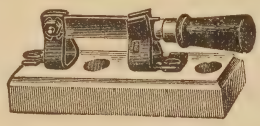
Price Each. 300 Volt. Without Fuse Connection.

List No.	Amp.	S. P. S. T.	S. P. D. T.	D. P. S. T.	D. P. D. T.	3 Pt. S. T.	3-Pt. D. T.
11745	35	$2.00	$3.00	$3 00	$4.50	$4.50	$6.75
11746	50	2.65	4.00	4.00	6.00	6.00	9.00
11747	75	3.35	5.00	5.00	7.50	7.50	11.25
11748	100	4.00	6 00	6.00	9.00	9.00	13.50
11749	200	5.35	8.00	8 00	12.00	12.00	18.00
11750	300	6.65	10.00	10.00	15.00	15.00	22.50
11751	400	8.45	12.65	12.65	19.00	19.00	28.50
11752	500	10.00	15.00	15.00	22.50	22.50	33.75
11753	600	11.10	16.80	16.80	25 00	25.00	37.50
11754	800	15.60	23 40	23.40	25.00	35.00	52.50
11755	1000	22.25	33.40	33.40	50.00	50.00	75.00

PORCELAIN BASE SWITCHES.

National Electrical Code Standard.

The switches listed on this page are correctly designed to fulfil the requirements of the National Electrical Code in every feature. Several unique features are embodied in the switches which strengthen them and make them very desirable.



List No. **11734** S. P. S. T.

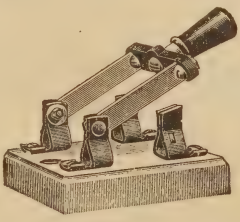
125 VOLT, SINGLE POLE.

List No.			Std Pkg.	Price
7097	15 Amp	S. P. S. T.	100	$0.34
7098	25 "	" "	100	.44
7099	15 "	" D. T.	100	.60
7100	25 "	" "	100	.74

List No. **11736** S. P. D. T.

250 VOLT, SINGLE POLE.

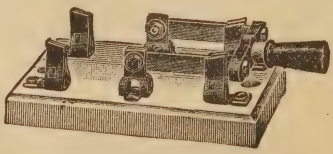
List No.			Std. Pkg.	Price
11734	15 Amp.	S. P. S. T.	100	$0.40
11735	25 "	" "	100	.50
11736	15 "	" D. T.	100	.68
11737	25 "	" "	100	.84



List No. **11738** D. P. S. T.

125 VOLT, DOUBLE POLE.

List No.			Std. Pkg.	Price
7101	15 Amp.	D. P , S. T.	250	$0.42
7102	25 "	" "	250	.50
7103	15 "	" D. T.	100	.74
7104	25 "	" "	100	.90

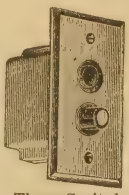


List No **11740** D. P. D. T.

250 VOLT, DOUBLE POLE.

List No.			Std. Pkg.	Price
11738	15 Amp.	D P. S. T.	250	$0 50
11739	25 "	" "	250	.60
11740	15 "	" D. T.	100	86
11741	25 "	" "	100	1.04

THE MANHATTAN PUSH SWITCH.



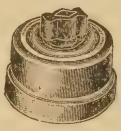
This Switch is of the highest grade in material and workmanship and has the following advantages over other push switches: Extra Long and Quick Break, Light Action, Great Flexibility of Contact Springs (which are of knife pattern) insuring perfect contact and are so located as to be protected from accidental injury or displacement.

Simplicity of construction reducing liability to get out of order to a minimum. The mechanism is insulated with sheet mica washers and the working parts are of hardened steel. The switch is firmly locked when on or off and cannot be stopped between these positions.

These Switches will fit the Standard boxes and are very easily connected.

List No.			Price
6740	10 Amp.	Single Pole at 110 volts, or 5 amp at 220 volts..each,	$1.65
6741	10 "	Double Pole, at 220 volts..... "	2.20
6742	10 "	3-way at 110 volts, or 5 amp. at 220 volts..... "	2.20
6743	10 "	4-way at 110 volts, or 5 amp. at 220 volts..... "	3.96

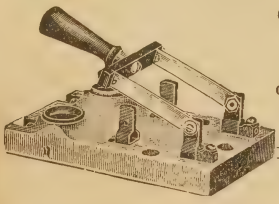
"DIAMOND H" SNAP SWITCHES.



Dial Indicating and removable, to facilitate connecting up. Hardened and Tempered Steel for the parts of mechanism most subject to wear. Spring Bronze Knife Contacts Sheet Mica Insulation of the current carrying parts from the mechanism. Switch plate loosely carried by the mechanism, allowing it to adjust itself in the contact clips.

List No.				Price
6570	Closed Base.....	5 Amps. Single Pole	220 Volts,	$0.58
6572	Closed Base with Dial.		"	.58
6574	Closed Base.....	10 Amps. Single Pole	"	.72
6576	Closed Base with Dial.		"	.72
6578	Closed Base.....	10 Amps. Double Pole	"	1.30
6581	Closed Base with Dial.		"	1.30

Special Prices in Quantities.



Combination Switch and Cut-Out

FOR 250 VOLTS

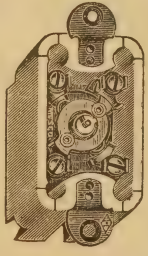
This is something new in a switch and cut-out, as it takes the place of both.

Made in double and triple pole.

Plugs same used in plug cut outs.

List No		Price.
7123	D. P. S.T., 25 Amp., 250 Volts,	$1.10
7124	T. P. S.T., 25 Amp., 250 Volts,	1.54

"DIAMOND H" ROTARY FLUSH SWITCHES.



"Diamond H" rectangular base rotary flush switches will fit any case that will take a push switch. No special boxes are necessary. They will also fit the "Diamond H" steel wall cases and frames.

COMPLETE WITH BEVEL EDGE NICKEL PLATES.

List No.			Price
6615	10 Amperes	Single Pole.....	$1.87
6616	10 "	Double Pole.....	2.45
6617	10 "	3-way.....	2.45
6618	10 "	4-way.....	2.45
6619	10 "	2 point Electrolier.....	2.45
6620	10 "	3 " "	2.45

Prices on Gang or Tandem Plates, on Aplication.

WEATHER-PROOF RECEPTACLE AND GLOBE.

No. 5458

No. 5460

No. 5463

No. 5467

The Newgard Combined Waterproof Receptacle and Globe is exactly what its name implies, being a receptacle to take a 16 c. p. lamp with either Edison or T.-H. base. For breweries, packing houses, cold storage warehouses, paper mills, soap factories, starch mills, distilleries, card board factories and many other places where the conditions are unusually severe for electrical wiring; and wherever there is moisture of any kind the Newgard Receptacle and Globe solves the difficulty heretofore experienced where the severe conditions made the perfect installation of lamps and sockets an impossibility.

Style A. List No.		Price per doz.	**Style B.** List No.		Price per doz.	**Style C.** List No.		Price per doz.
5460	Complete	$12.00	**5463**	Complete	$15.00	**5467**	Complete	$15.00
5461	Globes only	5.00	**5464**	Globes only	5.00	**5468**	Globes only	5.00
5462	Porcelain Caps	9.00	**5465**	Porcelain Caps	9.00	**5469**	Porcelain Caps	9.00
			5466	Metal Attach.	4.50	**5470**	Metal Attach.	4.50

Style "A" is furnished with 8 inch conducting wire and is designed for pendant work.

Style "B" is as Style "A" Receptacle, fitted with iron pipe connection for use with ⅜ inch iron pipe.

Style "C" is the same as Style "A," with the exception that it is provided with a flange of japanned iron to screw to ceiling or wall. (Packed one dozen in wooden case.)

The Newgard wire guard is made of large steel wire and is a protection against very hard knocks.

List No. **5458** Newgard wire guards..... ....per dozen. Price, $4 00

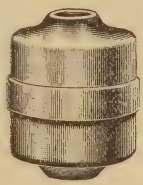
MESCO FLUSH RECEPTACLE.

SEPARABLE PLUG.

Designed to be used in connection with our other Separable Cap fittings. Portable, may be disconnected from our Attaching Plug, Current Tap or Stage Connector and connected with this without rewiring. Plate sets flush with wall and is made of highly polished brass. Strong, serviceable and neat.

List No.		Price
16413		$1.54

MESCO STAGE CONNECTOR



BRASS SHELL.

The most serviceable Stage Connector on the market, combining attractiveness and strength. The neat appearance of the brass shell together with the separable cap feature makes it an article of pronounced merit. Cap is interchangeable with our other Separable Cap fittings.

List No.		Price
16412		$0 77

Sockets and Receptacles.

Edison Screw Base.

No. 9386

No. 35000

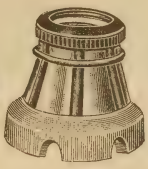
No. 9392

No. 35006

No. 9185

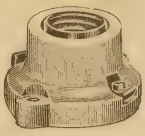
No. 50753

No. 9184

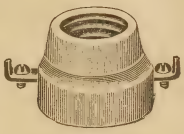


No. 50745

No. 50746



No. 9402



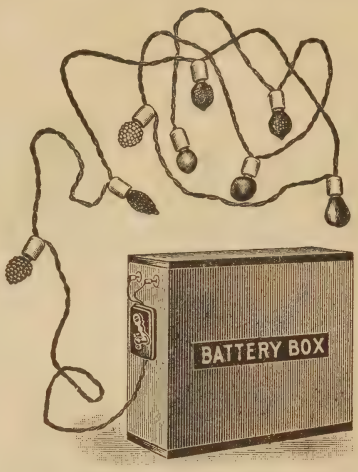
No. 9171

No. 9366

No. 9448

List No.		Stand. Pkg.	Price each.
9171	Keyless Receptacle, porcelain with outside connections and centre screw hole in base.....	500	$0.10
9184	Key Receptacle with porcelain base.....	250	.44
9185	Keyless " " " "	250	.40
9366	Porcelain Weatherproof Socket	250	.25
9386	Key Socket, fiber lined, ⅛ inch pipe.....	500	.33
9392	Keyless " " " " "	500	.30
9402	Keyless Receptacle, porcelain with outside connections and screw holes.....	500	.15
9448	Weatherproof Bracket Socket, porcelain, for ⅛ inch pipe.....	100	.60
35000	H. G. Pull Socket for ⅛ inch pipe.....	250	.60
35006	H. G. Pull Wall Socket for ⅛ inch pipe.....	100	.70
50745	Keyless Receptacle, fibre lined, with removable ring and porcelain base	250	.30
50746	Keyless Receptacle, fiber lined, with removable ring and concealed base.....	250	.40
50753	Key Angle Base Receptacle, fiber lined.....	100	.55
50755	Keyless " " " " "	100	.50

Special Prices for Quantities.



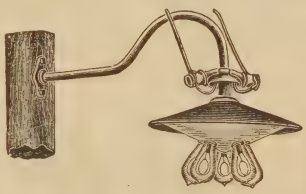
BATTERY DECORATIVE OUTFIT.

This outfit consists of 8 Lamps representing different fruits in their natural colors, together with Sockets and flexible conducting cord connected, ready to attach to battery box.

A great decoration when not lit, and a magnificent show when illuminated.

Price, complete with 3 Cells Dry Battery, $9.00,

STREET HOOD FIXTURE.



Bracket Cluster Fixture.

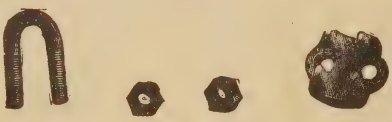
Complete with ¾ inch iron pipe goose-neck, iron cross-arm, porcelain insulators, sockets, etc. Light four feet from pole.

List No.		Price
9650	5 light, complete	$7.60
9620	4 light, complete	7.30
9621	3 light, complete	7.00
9622	2 light, complete	6.70

Cluster Street Hood.

Hood and white enameled deflector, complete with sockets.

List No		Price
9661	Each 5 light, complete	$4.00
9662	" 4 " "	3.75
9663	" 3 " "	3.50
9673	" 2 " "	3 25



CROSBY CLIPS.

The most effective fastening for guy wires and cables.

List No.		Price
4210	For ¼-inch strand	$0.25
4211	" 5/16 "	.25
4212	" ⅜ "	.25
4213	" 7/16 "	.30
4214	" ½ "	.30

GALVANIZED GUY CLAMPS.

The cheapest and strongest Clamp on the market for fastening guy wires and cables. Large size is 4 inches long; small size 3 inches long.

List No.		Price
4058	Large size, with three Bolts, Per 100 pcs	$30.00
4062	Small size, with two Bolts. Per 100 pcs	20.00

MALEABLE IRON BRACKETS AND PINS.

No. 4044

No. 9675

No. 9676

No. 4041

No. 4046

No. 9677

No. 9681

No. 9682

No. 9683

No. 4042

No. 4040

Adjustable screw end for glass insulator. Made of malleable iron and will not break. Very sightly and will save time in putting up wires.

List No.			Price
4044	Wall Bracket	each	$0.16
9675	Roof bracket, or top of cross-arm	"	.17
9676	Hood bracket, for use on cross bars of Thompson-Houston Hood to take the place of porcelain knobs	"	.16
4041	Short bracket for roof, top of cross-arm, etc	"	.16
4046	Wall bracket for heavy wires	"	.20
9677	Curved base bracket for side of pole	"	.20
9681	Iron pin for 1¼ inch hole for use on standard cross arms	"	.20
9682	Iron pin for 1½ inch hole, for use on standard cross arms	"	.20
9683	Iron pin for ½ inch hole	"	.12
4042	Ceiling or underground angle bracket	"	.20
4040	Ceiling or underground bracket, double	"	.36

A full line of this class material always carried.

DECORATIVE OUTFITS.

For Interior Decorations with Miniature Electric Lamps.

Especially commended for lighting Christmas Trees and for all interior decoration where lighting effects are desired. Perfectly safe, substantially constructed, and readily applied.

Outfit consists of one or more Festoons of Silk Covered Flexible Wire, each Festoon with eight Pendant Porcelain Sockets wired thereto and an Attaching Plug to be screwed into a Lamp Socket, which supplies the necessary electric current. One Festoon may be attached to another until the desired number of lights are connected. Indispensable for attractive window decoration.

These outfits can be supplied for use on all voltages running from 46 to 250, and in ordering be sure to state voltage of circuit.

List No.		Price
13424	One Festoon (8 sockets) complete; 9 Lamps furnished, 5 Clear, 2 Frosted, 2 Red	$8.00
13425	Two Festoons (16 Sockets) complete; 19 Lamps furnished, 13 Clear, 3 Frosted, 3 Red	13.60
13426	Three Festoons (24 Sockets) complete; 28 Lamps furnished, 20 Clear, 4 Frosted, 4 Red	19.20
13427	Four Festoons (32 Sockets) complete; 36 Lamps furnished, 24 Clear, 6 Frosted, 6 Red	24.00
13428	Extra Festoons (8 Sockets) ready to connect to any of the above outfits, with 9 Lamps, 6 Clear, 2 Frosted, 1 Red	6.40

IMPORTED "ELECTRA" CARBONS.

These Carbons are not equalled in quality and efficiency by any other foreign or domestic make. The combustion is even and perfect; they produce practically no dust and give an excellent, uniform, brilliant and steady light. They produce the highest standard candle power in proportion to the current consumed and are therefore the most economical carbons manufactured.

"Electra" Carbons for Enclosed Arc Lamps.

ALTERNATING OR DIRECT CURRENT.

List No.	SOLID.	Price Per 1000.
10740	½ x 12 in	$75.80
10741	½ x 10 "	69.00
10742	½ x 9½ "	65.00
10743	½ x 8 "	56.00
10744	½ x 7½ "	51.30
10745	½ x 6 "	41.00
10746	½ x 5½ "	37.50
10747	½ x 5 "	33 50
10748	½ x 4¾ "	32.00

List No.	SOLID.	Price Per 1000.
10749	7/16 x 12 in	$62.80
10750	7/16 x 10 "	57 00
10751	7/16 x 9½ "	55.50
10752	7/16 x 6 "	32.00
10753	7/16 x 4¾ "	28.00
10754	⅜ x 12 "	59.00
10755	⅜ x 8½ "	50.60
10756	⅜ x 6 "	30.00

CORED

10757	½ x 12 in	$78.00
10758	½ x 10 "	72.60
10759	½ x 9½ "	68.40
10760	½ x 8 in	$59.00
10761	7/16 x 10 "	60.00
10762	7/16 x 9½ "	58.40

"Electra" Carbons for Direct Current Open Arc Lamps.

SOFT CORED UPPERS.

	Price per 1000.
7/16 x 7½ in	$40.00
½ x 7½ "	44.00
9/16 x 7½ "	46.00
⅝ x 7½ "	55.20
9/16 x 10 "	56.20
⅝ x 10 "	65.60
11/16 x 10 "	76.20
13/16 x 10 "	87.80
11/16 x 8 "	66.60
13/16 x 8 "	74.00
7/16 x 10 "	49.50
½ x 10 "	55.00

SOLID LOWERS.

	Price per 1000.
5/16 x 6 in	$26.00
⅜ x 6 "	29.20
7/16 x 6 "	30.00
½ x 6 "	33.00
7/16 x 7 "	32.00
½ x 7 "	36.00
9/16 x 7 "	42.00
⅝ x 7 "	48.00
5/16 x 7½ "	34.00
⅜ x 7½ "	37.00
7/16 x 7½ "	37.50
½ x 7½ "	40.00
15/32 x 8 "	48.00
½ x 8 "	49.40

"Electra" Cored Carbons for Alternating Open Current Arc Lamps.

	Price per 1000.
½ x 6¼ in	$49.80
19/32 x 6¼ "	55.20
7/16 x 7 "	49.40
½ x 7 "	51.60
19/32 x 7 "	57.60
⅝ x 7 "	61.40

	Price per 1000.
½ x 9½ in	$60.50
19/32 x 9½ "	70.80
⅝ x 9½ "	77.00
½ x 10 "	65.00
19/32 x 10 "	73.00
⅝ x 10 "	80.00

Domestic Arc Light Carbons for High Tension Open Arc Lamps.

SOLID.

		Price per 1000.
7/16 x 12 in.	Plain	$32.00
7/16 x 7 "	Plain	18.80
7/16 x 12 "	Coppered	33.60
7/16 x 7 "	Coppered	19.60
½ x 12 "	Plain	34.00
½ x 7 "	Plain	20.00
½ x 12 "	Coppered	36.00
½ x 7 "	Coppered	21.00

½ inch Carbons will be furnished with ends reduced to 15/32 when so ordered, without extra charge.

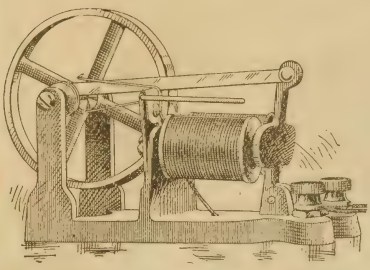
9/16 x 12 in.	Plain	$40.00
9/16 x 7 "	Plain	23.00
9/16 x 12 "	Coppered	42.40

SOLID.

		Price per 1000.
9/16 x 7 in.	Coppered	$24.60
⅝ x 12 "	Plain	45.00
⅝ x 7 "	Plain	26.00
⅝ x 12 "	Coppered	48.00
⅝ x 7 "	Coppered	28.00
⅝ x 14 "	Plain	48.00
⅝ x 9 "	Plain	34.00
⅝ x 14 "	Coppered	54.00
⅝ x 9 "	Coppered	36.00
¾ x 12 "	Plain	58.00
¾ x 7 "	Plain	30.00
¾ x 12 "	Coppered	61.00
¾ x 7 "	Coppered	32.00

¾ inch Carbons with ends ground to fit Elliptical holders, no extra charge.

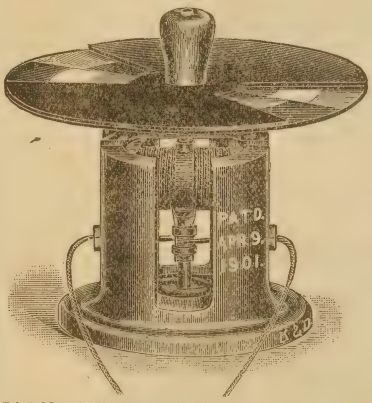
STUDENT'S ELECTRIC ENGINE.



This engine is a remarkable piece of mechanism. Will run at variable speeds between 200 and 3000 revolutions per minute. Both speed and reverse are governed by the controlling lever. Runs on a single cell of dry battery and is very economical in use of battery current. An interesting, instructive and efficient apparatus.

List No. Price

1013 Engine.....$2.50

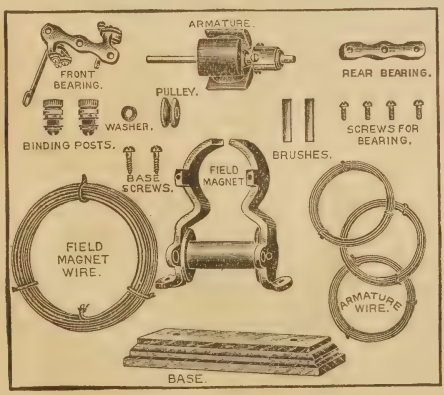


ELECTRIC TOP.

This top will spin for hours at a high speed. By using the color changing discs, beautiful illusions may be produced, which are instructive as well as amusing. It is also *a perfect running electric motor*, and can be used as such to run small mechanical toys with a belt from grooved pulley on shaft. It is operated by one cell dry battery: finished in red enamel, with polished nickel trimmings, and furnished with four color discs.

List No. **1014** Electric Top.....each, $1.50

MOTOR PARTS FOR AMATEURS.



The accompanying cut illustrates a complete set of Motor parts ready to wind and assemble.

Full directions with each set enabling any one to produce a complete Motor same as No. 3580.

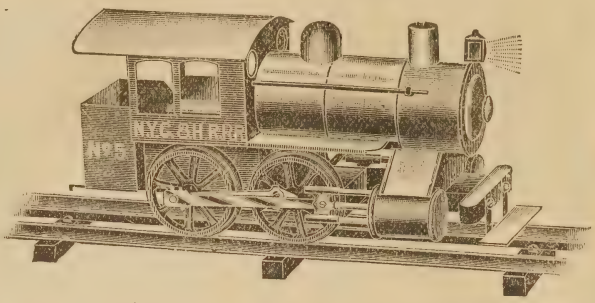
This set is just the article for a boy who delights in experimenting as he is taught the practice as well as the principle of Electric Motor construction.

List No. Price

1019 Motor Parts.....$1.50

MINIATURE RAILWAY OUTFITS.

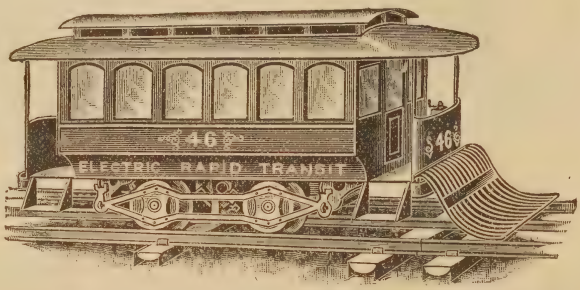
Electric Switching Locomotive.



Built on the lines of the latest type of Switching engines. Made of sheet steel beautifully finished. All working parts and trimmings are nickel-plated. Has regular reversing lever. It is 11 inches long, 5½ in. high, 4 in. wide and driving wheels are 2¼ in. in diameter.

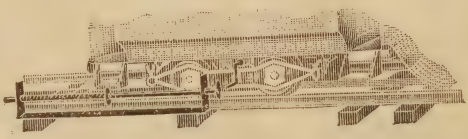
List No.		Price.
16468	Boxed	$5.50

Electric Car Outfit.



An exact reproduction of the large street trolley car. Equipped with a reversing device which also starts and stops the car. It is 10½ inches long and 6 inches high. Mechanism is entirely contained under the floor. Runs on 3 Red Seal Dry Batteries.

List No.		Price.
16469	With 12 feet track – 8 curved and 4 straight sections	$4.90

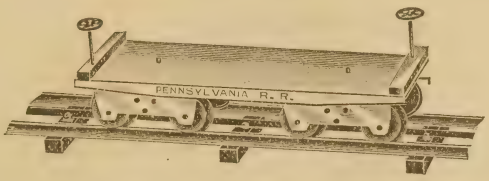


Automatic Trips.

The peculiar construction of our cars enables them to be reversed automatically by use of these trips. Can be placed at any point where it is desired to have the car reverse.

List No.		Price.
16470	Per pair	$0.50

FLAT CAR.



Regulation Style. Made for loading bulky articles. Substantial throughout. Will carry considerable weight.
Length 11 inches. Width 3½ inches.

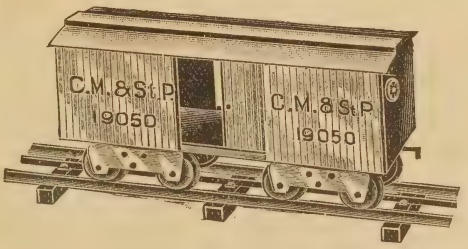
List No.		Price
16471	Boxed	$0.75

GONDOLA FLAT CAR.

Regulation design and equipment. Fitted with hand brakes and couplers, also nickeled flexible trucks. Length 11 inches. Width 3½ inches. Depth 1⅝ inches.

List No.		Price
16472	Boxed	$0.80

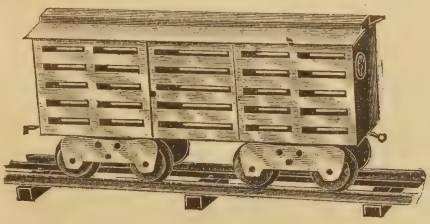
BOX CAR.



Has sliding doors and roof, also hand brakes and couplers. Fitted with flexible trucks. Steel throughout.
Length 11 inches. Width 3½ inches. Depth 3½ inches

List No.		Price
16473	Boxed	$1.45

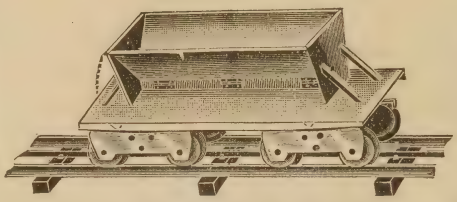
Cattle Car.



Has sliding doors and roof also hand brakes and couplers. Is steel throughout and has flexible trucks.
Length 11 inches. Width 3½ inches. Depth 3½ inches.

List No.		Price
16474	Boxed	$1.55

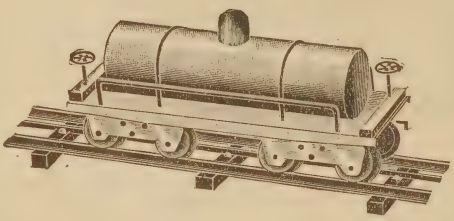
COAL CAR.



Regulation construction. Modelled after the newest coal cars made. Both sides of car fall over, so that contents may be dumped quickly. Sides hinge and when raised snap into place. Substantial throughout. Will carry considerable weight and quantity. Length 11 inches. Width 3½ inches.

List No.		Price
16475	Boxed	$1.45

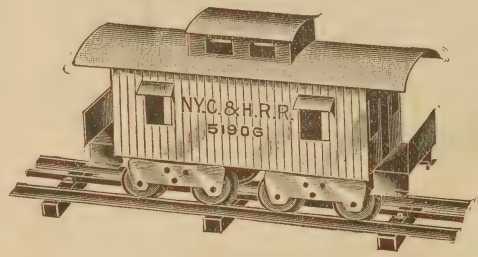
OIL CAR.



Regulation construction. A most attractive addition to a freight train outfit. Beautiful in design and finish. Has hand brakes and couplers, also hand rails and heavy bands around tank. Length 11 inches. Width 3½ inches.

List No.		Price
16476	Boxed	$1.55

CABOOSE.

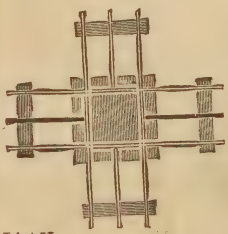


Regulation style. Has seats in the interior. Hoods cover the windows. Sliding roof has also windows. This trailer is indispensable to a well equipped freight oufit.

Length 11½ inches. Width 3½ inches. Height above trucks 5 inches.

List No.		Price
16477	Boxed	$1.50

CROSSING.

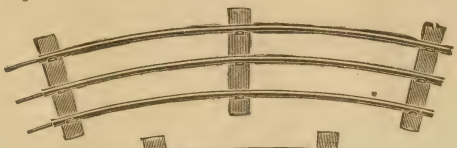


Constructed as neatly and substantially as the other parts of the outfit. Connects with the track same as any of the sections. The cross rails are mounted on a base 8 in. square. The electrical connections are permanent. With this arrangement the track may be made into a number of different figures and if a well equipped road is desired this part is indispensable.

List No.		Price
16478	Complete	$0.60

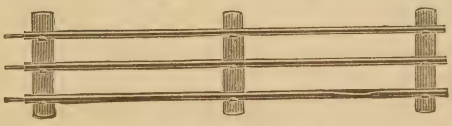
THE TRACK.

2 inch guage, all steel with insulated Third Rail. The greatest improvement ever made in Electric Car Outfits.

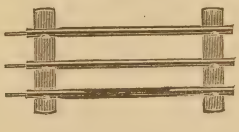


List No. **16749** Curve.

List No. **16480** ½ Curve.



List No. **16481**

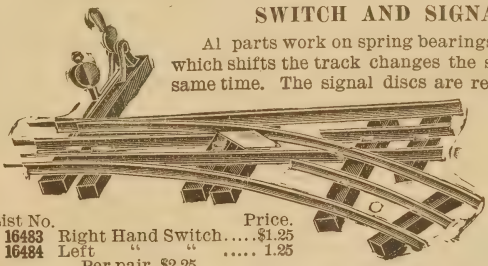


List No. **16482**

List No.		Price.
16479	14 inches long, per section	$0.15
16480	7 " " " "	.10
16481	12 " " " "	.15
16482	6 " " " "	.10

8 No. 16479. Sections make a circle 3 feet in diameter.

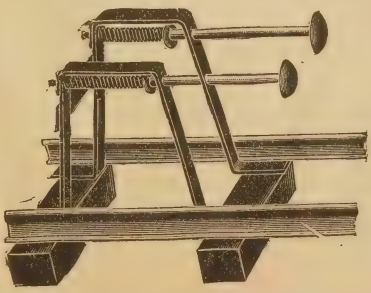
SWITCH AND SIGNAL.



A1 parts work on spring bearings. The lever which shifts the track changes the signal at the same time. The signal discs are red and white enameled. The switch is 14 inches long, 8 inches wide and 4½ inches high.

List No.		Price.
16483	Right Hand Switch	$1.25
16484	Left "	1.25

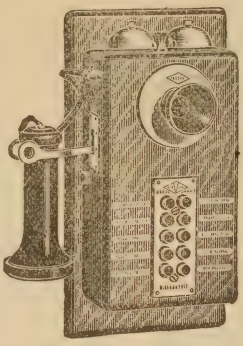
Per pair, $2.25



BUMPER.

Indispensable for the road Terminal. Has two spring plungers which absorb the shock of the striking car. Easily attached to track.

List No.	Price.
16485	$0.35



FIVE STATIONS "SWITCHLESS" INTERCOMMUNICATING OUTFIT.

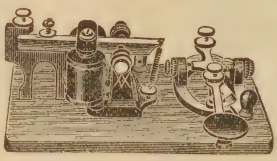
Five Switchless Telephones, No. 1507	$85.00
Ten Mesco Dry Batteries, No. 2385..	2.70
Fifteen pounds Office Wire, No. 18..	10.50
One pound Manhattan Tape, Black	.70
One pound D. P. Tacks, No. 4769	.20
Total,	$99.10

FIVE STATION INTERCOMMUNICATING OUTFIT.

With Switches.

Five Telephones, No. 1536	$80.00
10 Mesco Dry Batteries, No. 2385	2.70
Fifteen pounds Office Wire, No. 18.....	10.50
One pound Manhattan Tape, Black	.70
One pound D. P. Tacks, No. 4769.....	.20
Total,	$94.10

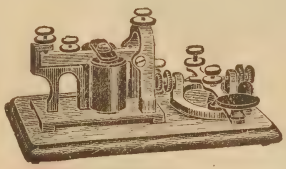
LEARNERS' TELEGRAPH OUTFIT.



Nor 100 Foot Line.

Two Eureka Instruments, No. 178.....	$5.20
Two Crowfoot Batteries, No. 2515	1.80
Three pounds Blue Vitriol, No. 2514	.48
Two pounds Annunciator Wire, No. 18.....	1.40
One ounce D. P. Tacks, No. 4769	.02
Total,	$8.90

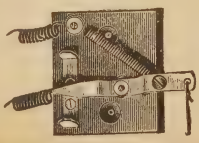
TELEGRAPH LINE, ONE MILE.



Two Giant Combination Sets, No. 186.....	$10.20
Eight Crowfoot Batteries No 2515	7.20
Half pound Annunciator Wire, No. 18.....	.36
One ounce D. P. Tacks, No. 4769..	.02
One mile No. 14 Galvanized Iron Wire.....	9.60
Thirty-five Oak Brackets, No. 4001	1.10
Thirty-five Pony Glass Insulators No. 3917.....	.98
Total,	$29.46

BURGLAR ALARM OUTFITS.

Outfit No. 1.



Two Burglar Alarm Traps, No. 1605.....	$0.60
Eight square ft. Burglar Alarm Matting	3.00
One Iron Bell Box, No. 1837.....	.60
One Automatic Drop, No. 1582.	.90
Two Mesco Dry Batteries, No. 2385.....	.60
One pound Annunciator Wire, No. 18.....	.70
Half pound D. P. Tacks, No. 4769.....	.12
Total,	$6.52

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